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ABSTRACT

This conference was one of six regional meetings on implications of current proposals on vocational education for industry, education, and legislation sponsored by the University of Wisconsin Center for Studies in Vocational and Technical Education. Approximately 209 persons, mostly educators, attended. Presentations included in the document are: (1) "Foundations for Vocational Education," by Melvin L. Barlow, (2) "Educational Programs to Cope With Manpower Problems," by Rupert N. Evans, (3) "Industry and Business Bridging the Gaps in the Preparation of Youth," by Samuel M. Burt, (4) "Bridging: Yesterday, Today, and Tomorrow," by Byrl R. Shoemaker, (5) "Development and Use of Human Capital," by A. Ray Chamberlain, (6) "The Road Ahead for Vocational Education," by John F. Jennings, and (7) "Summary and Evaluation," by Malcolm Hunt. Appended is a report by the conference director in which group discussions are summarized. (JK)

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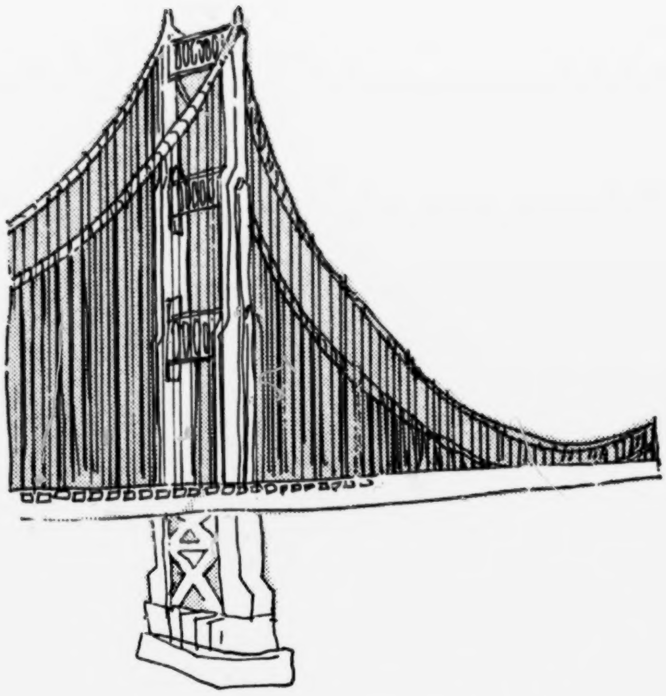

Report

THE BRIDGE BETWEEN MAN AND HIS WORK

Colorado
State
University

Fort Collins

MAN EDUCATION AND WORK

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vocational education

1969

THE BRIDGE BETWEEN MAN AND HIS WORK

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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conference
report by

Dr. Milton E. Larson
Professor of Vocational Education

and

Dr. Duane L. Blake
Head
Department of Vocational Education

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a citizens conference on

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Thursday and Friday
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one of six regional conferences on
implications of current proposals on
vocational education for industry,
education and legislation at

COLORADO STATE UNIVERSITY
Fort Collins, Colorado

by

The Department of Vocational Education

FOREWORD

This report on Vocational Education, the Bridge Between Man and His Work is to present certain of the most significant proceedings that emerged from the regional conference held at Fort Collins, Colorado on October 3 and 4, 1968 The conference was one of six sponsored by the Center for Studies in Vocational and Technical Education at the University of Wisconsin, under a special grant from the Ford Foundation. It was directed by Dr. Milton E. Larson, Professor of Vocational Education, Colorado State University.

The specific speeches and discussions reported here have great implications on vocational education for industry, education and legislation. These proceedings should prove more than casual interest to the serious educational leader. From the reading of this report the educational leader may moreover be expected to acquire an understanding, of the kinds of problems with which contemporary vocational education is concerned.

Almost unlimited contributions to the social and economic stability of the nation exist today in this new era of vocational education. Great changes have occurred in vocational education during the past 10 years. The program is now more effectively adapted to national social and economic requirements.

We are enthusiastic and optimistic about the new focus in vocational education as reported here and hope that the present and future educational leadership is equipped to handle the charge. More than 50 per cent of students will continue to be ignored unless our educational system decides to include occupational preparation as its most important goal.

This report was made possible by the cooperation of many persons, the director and his graduate assistants, keynote speakers, discussion leaders and participants. The department is indeed grateful for all of these efforts.

Duane L. Blake, Ph.D.
Head, Department of Vocational Education

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FOUNDATIONS FOR VOCATIONAL EDUCATION

Melvin L. Barlow
Professor of Education, UCLA
Director Division of Vocational Education
University of California

Vocational education has been much in the news in recent years. In 1961-62 a Panel of Consultants on Vocational Education was appointed by President Kennedy. This Panel, under the dynamic leadership of Dr. Benjamin Willis, then superintendent of schools in Chicago, produced a report called Education for a Changing World of Work. The report was used by an enlightened Congress who passed the Vocational Education Act of 1963.

Late in 1966 President Johnson announced the appointment of an Advisory Council on Vocational Education. The Council worked throughout the year of 1967 under the stimulating direction of Dr. Martin Essex, state superintendent of public instruction in Ohio. The Council's report was called Vocational Education: The Bridge Between Man and His Work. On the basis of this report an enthusiastic Congress has considered significant amendments to the Vocational Education Act of 1963.

This is truly a new era in vocational education. Its potential contributions to the social and economic stability of the Nation are almost unlimited, and a generous expansion of vocational education will do much to solve some of the basic problems of our ailing society.

In the contemporary enthusiasm for vocational education it is important to look closely at the foundations of this area of education and to develop an understanding of the principles of this 50 year old movement in education. Few of the newcomers to the field of vocational education have had an opportunity to see it in its broad perspective, and fewer still have had a chance to probe the depths of its origin.

The idea of a vocational component in public education developed over many years. The names of people involved in describing the parameters of vocational education read like pages from Who's Who. Persons representing many facets of the American culture participated in developing the rationale for vocational education and people were involved from border to border and coast to coast. At one time, prior to the passage of the Smith-Hughes Act, it was estimated that Senator Carroll S. Page, of Vermont, had reached nearly 10 million people concerning their interests in vocational education. Few pieces of legislation have attracted so many people, and in turn have been influenced by them.

As the American dream of universal education developed it was obvious that preparation for the world of work was an imperative aspect of that dream. During the early years of the twentieth century ideals of public education reached maturity and we began to see significant trends toward actually meeting the goals of universal education.

From the beginning of our national period our public education system was organized on a basis which said in effect that Education was a concern of the federal government, a function of the state, and a responsibility of local governments. However, from time to time certain facets of education have had national characteristics and the federal government has exerted a definite influence. The Land Grant

College Act of 1862, providing for agricultural and mechanical colleges in each of the states, is an example. The Act of Congress in 1917, providing vocational education benefits for students in institutions other than colleges is an example of the first substantial national attention of the federal government concerning the occupational education needs of the masses. Although the roots of vocational education are found in our Colonial period, the forces of vocational education seem to focus sharply during the period 1906-1917. It was during this period that we find the foundations of the present program of vocational education.

For nearly 30 years it has been my good fortune to look into the background of vocational education and to examine the ideas and concepts upon which the program was initiated. In order for me to think comfortably in the area of vocational education I have had to create a basic structure for vocational education. This structure has three parts:

1. Foundations

The basic concepts of vocational education was discovered, described, and discussed during the period 1906-1917, and largely by the National Society for the Promotion of Industrial Education. Out of these discussions emerged certain principles and foundations. Basic control points which do not change with time.

2. Interpretation of Principles

Because we are living in a dynamic society, people and the economy of the Nation do change. Therefore, from time to time, it is necessary that we interpret the basic principles of vocational education.

My structure says that the major evidences of reinterpretation of principles occurred with the George-Deen Act in 1936, the George-Barden Act in 1946, the Vocational Education Act of 1963, and most recently with the report of the Advisory Council on Vocational Education, 1968, which stimulated current amendments to the Act.

3. Implementation

It is at this point that the program actually goes to work and state and local governments have primary responsibility to see that implementation of principles will be so structured that we do in fact provide appropriately through public education a program of vocational preparation which will meet the needs of youth and adults in local communities.

A Plan Emerges

In this structure the principles do not change. However, it is necessary to reinterpret the principles from time to time and consequently to make adjustments in actual program practices in the state and local communities.

Now, I have a plan--first, solid principles upon which the program rests; second, a means of interpretation of the principles; and third, implementation. This conceputalization makes me feel comfortable and I am ready to think, talk, write, and work with the elements of vocational education.

I know that the principles of vocational education were built around people and their occupational needs, arround the requirements of business and industry, and around the desire of labor for an educated labor force, and in accord with national social and economic goals. When I hear people talk about that "old fashioned" vocational education program, that "out-of-date" structure built upon 1900 concepts, I know they don't know what they are talking about, and most certainly they don't understand the background and the purposes of vocational education. The total area of vocational education, perhaps more so than any other area of education, has built into its structure self-adjusting mechanisms which will fit any situation.

I can almost hear people (not in this audience of course) tell about a vocational education program that went to pot--a program that by any measure was rotten from start to finish. Well, dear friend, that can happen, because despite the soundness of the vocational education theory anyone can take a good idea and ruin it.

Change in Vocational Education

But, it is a fact that great changes have occurred in vocational education--most of them in the past five to 10 years. However, when we examine the nature of this change we see that all we have done is to adapt the program more effectively to national social and economic requirements, and perhaps to ease the administrative complexity of the program and to make its routine tasks easier. But we haven't changed the basic principles.

In 1917, the vocational education program was beamed toward students at the high school level and toward employed workers. High schools at that time were beginning to catach on pretty well and the vocational education program was intended as the "carrot out in front" for the eighth grade dropout. Also the nature of the vocational education program, which was described as the "great democratizer of secondary education" was considerably more palatable to students who would normally dropout because the academic program offered them nothing.

Let's jump 51 years to the present time and see how change has entered the picture. The program is no longer limited to high schools but includes a variety of post-secondary institutions. The scope of occupational areas concerned has been expanded considerably--actually to the point of preparation for all occupations except those designated as professional and which require a baccalaureate or higher degree.

In terms of students vocational education has moved toward "seeking-out" the young victims of a variety of disadvantages and preparing special programs for their needs. In a similar fashion the program has been adjusted from employed workers only to include unemployed, improperly employed, imperfectly employed, and appropriate programs to cope with technological change, automation, and the like.

It is not my task to delineate all of the details of the elements of change in vocational education. Other parts of the program will touch more directly upon this area. I am citing this metamorphous merely to say that despite all the wonderful evidences of change not one basic principles of vocational education has been changed. I feel secure, and proud beyond measure, in knowing that the vocational movement in education was built upon sound foundations. The persons concerned with the development of the foundation principles of vocational education were giants among the men and women of the Nation, and they represented an appropriate crossection of the culture of America.

Selected Principles

> Our first task, a task to which everything else is subordinant, is that of making American citizens; and

therefore before we begin to specialize too closely in vocational education we should provide a firm basic educational foundation.

Let us apply our finest educational insight and courage to the need for vocational education, insisting that the educated workman is the most valuable of national assets, and the nation which possesses this asset will be a successful competitor.

No vocational school (or program) can turn out a finished journeyman, but it can develop the material out of which a finished journeyman can be made.

Vocational education program should be under the control of public schools with representatives of labor on the school board.

All vocational programs should be open to all; sex, creed, color or nationality should not debar anyone.

In order to establish vocational education on a firm and last basis, interests of employee and employer must be equally considered.

Stimulus, financial aid, and backing of the government is necessary in order to give vocational education character, direction, and uniformity.

Both general and technical education are important as a means of prevention of the waste of human resources.

Vocational education must deal with adolescents, taking them as they come and fitting them for the practical tests of social and industrial efficiency.

Society cannot continue to expend vast sums of money for high schools and universities and neglect the ninety per cent of the students who go into vocational life improperly prepared, without repudiating the reasons usually given for having schools of any sort as a public charge.

The list of these ideas from the early record seems almost endless. At one time I made a list of roughly 600 of these points of view. Many expressed the same idea although different individuals or groups were responsible for the development of the idea. It is therefore somewhat difficult to pick out only a few for discussion.

However, let's look again at the record. In 1908, when the idea of a Federally supported program was only two years old, the proponents of vocational education were saying:

> Much of the instruction must necessarily be individual rather than group in order to adapt it to the varied abilities and experiences of the pupil.
>
> In order that vocational education may not become a narrow routine thing, unable to appreciate the new demands and unable to respond to those new demands, our vocational schools must be kept in the closest sympathetic relation with the schools that make for our general culture.
>
> Without federal aid and encouragement the attempts by the state will be isolated and spasmodic.
>
> Vocational education for boys and girls must be broad; it must do much more than provide for the learning of a trade.
>
> There is no bunching of boys together, rushing the duller and slower boys over the course, or holding back the quick and energetic boys, but each boy progresses just as fast, just as rapidly as his ability or capacity will permit, and each individual must be thoroughly familiar with the work at hand before he is allowed to proceed to some higher branch or more difficult work.

Now and then a historian makes a "find" that sheds some light on the "why" of certain issues. It was my good fortune some time ago to locate several file cabinets of original documents about vocational education during its formative period. All of the people involved in the preparation of this material have passed away and the documents have been withheld from public view for more than 30 years. I immediately developed an irresistible urge to tell this story--the story about vocational education that nobody knows. Sometime this winter look for a publication, probably from the American Vocational Association, under the title of The Unconquerable Mr. Page.

Senator Carroll S. Page led a fight in the Congress for vocational education from 1911 through 1916. Had the vocational education bill passed in 1916 it would have been known as the Page-Wilson Bill. However, the new Congress in 1917 changed from a Republican majority to a Democratic majority and so we talk about the Smith-Hughes Bill, identifying the majority leaders in Congress in charge of the Bill.

I would like to share with you parts of three letters that were sent to Senator Page--remember that they were written more than a half century ago.

J. F. Johnson, Dean of the School of Commerce, New York University, wrote on January 3, 1913, as follows:

> I have examine very carefully the provisions of Senate Bill 3, for the encouragement of vocational education among the States, and shall consider it a national calamity if this bill or something very much like it does not become a law.
>
> My own education was of the old fashioned kind. When I left college I was able to do nothing except teach school. As I was qualified to teach only languages, and literature, and not well fitted even for that work, the profession of teaching did not appeal to me. I broke into the newspaper work at a few dollars a week, and after four years' apprenticeship became the financial editor of a Chicago daily. I then had occasion to discover that few bankers and business men had been specially trained for their vocations and that many of them in consequence were making costly blunders. I resolved that if ever I became a teacher again I would devote myself to working out a scheme of education for business men. The call came in 1893, and since then I have been engaged in vocational education.
>
> You are entirely right in your contention that vocational education will have a cultural effect. My own view is that culture is a by-product of education. It should not be the thing aimed at. Young people are not interested in it, and we old folks can't define it. Most of our children don't want to go to school because they can't see any possible connection between school and life.
>
> The measure for which you are fighting, if it becomes a law, will do much more than furnish several thousand young people an opportunity to fit themselves for useful careers.

> It will give the American people an object less on in real education and will set them to wondering why they are spending so many million dollars on a public school system that is wasting a remendous amount of their children's time and energy.

Samuel Gompers, President of the American Federation of Labor, was a strong supporter of the vocational education movement and was constantly in a position of leadership. In one of his letters, dated late in January 1913, he says:

> We believe that technical and industrial education of the workers in trades and industry, being a public necessity, should not be a private but a public function, conducted by the public, the expense involved at public cost and as a part of the public-school system. In order to keep such schools in close touch with the trades and industries there should be local advisory boards, including representatives of the industries, the employers, and organized labor.

Frank Warren Hackett, an attorney, and formerly Assistant Secretary of the Navy wrote to Page concerning the accusation that the vocational education bill was unconstitutional. He says in this letter:

> The grand object of this bill, as we have seen, is to render aid in furnishing vocational education to the American boy and girl.
>
> Here is a question of the power of Congress which involves something more than an examination into what has heretofore been done by Federal authority to help along the cause of education in general. An underlying purpose is to check the growing evil that is threatening the well being of the body politic. There is, and for some time has been, disquietude in the field of labor.
>
> No longer is it prudent to allow a great majority of the boys and girls of the land to grow up without early training in the art of earning a livelihood. Something better must be furnished than an ordinary school training. It is the part of wisdom to heed the warning and diligently to seek and apply the remedy.

The thousands of persons who shared their views with Senator Page most certainly influenced his actions and more important gave strength to the convictions he held about the importance, need, and place of vocational education.

The vocational education bill was under discussion in the Senate on July 24, 1916. Page's closing remarks show his determination to help the youth of America and his confidence in vocational education. He says:

> Mr. President I wish to emphasize what I regard as the fundamental purpose of Federal effort to blaze a trail which the several States may follow toward greater industrial efficiency and better citizenship for our young men and young women. Its purpose is to stimulate and encourage stronger State action along educational lines, with the central idea of promoting that equality of opportunity which this country owes to all, rich and poor alike.
>
> The problem with which we must today deal is that of providing an education which gives efficiency to the boys, who, because of the financial condition of their parents, are unable to reach even a high-school grade, and they constitute 92 per cent of all our boys.
>
> In my judgment, any bill, the chief purpose of which is the formation of character and citizenship, is not unconstitutional, because good citizen ship is an absolute sine quo non for the general welfare and the common good.
>
> I submit, Mr. President, that this can be done [achieve good citizenship] in no way so well as by vocational education--indeed it is probable that there is no other way in which it can be done at all.

So What?

Placing a focus of attention upon some of the foundation elements of vocational education brings into view the point that the present program of vocational education does have an honorable heritage. It is not a fly-by-night program that follows a will-o'-the wisp. It is not a quickie band-aid program created under unusual conditions of social and economic stress.

Vocational education is built upon sound foundations that can in fact build stability into the social and economic fabric of the Nation. The very nature of the foundation elements provides that on occasion we must review our direction--reinterpret the principles of vocational education in the light of social and economic needs. And we must develop new innovations, creative and exemplary ways and means of serving the people of the Nation.

Contemporary rationale for vocational education says that welfare programs are not the answer for a great majority of youth and adults. Only employed people can make contributions toward national goals. It is vocational education's business to be concerned with preparation of people for employment.

It was my good fortune to have served in 1962 as a member of the research staff of the Panel of Consultants on Vocational Education and again in 1967 as director of the study of the Advisory Council on Vocational Education. Great social change occurred during the five year period. In 1962 no one had ever heard of Watts, and Detroit, Cleveland, and Trenton were just names of cities. But when the Advisory Council met in 1967 it did so in an emotion charged atmosphere of great social concern for individuals.

The entire rationale for vocational education was built upon the imperative necessity of cooperative relationships with a variety of groups. This is not a debatable matter--there is no other way to conduct vocational education.

Our hope for the future lies in the area of education. But it is the area of education that is the greatest stumbling block to progress.

We must have massive changes in the public educational system or else we will continue to ignore more than 50 per cent of the students, and we will continue to turn out into society thousands of educated youth who can't do anything at all. Society cannot continue to support a public education system that refuses to include occupational preparation as its most important goal.

In order to achieve the needed renaissance in education we must have the wholehearted commitment of the public at large, of educators, of business, labor, industry, and government. We must see in our public education system the essence of the Mahoning Valley Vocational School in Ohio, of the Oklahoma State Technical School in Okmulgee, Oklahoma, of the skill centers in many locations, and of the area vocational education centers of high school and post high school grade, which are emerging in various forms throughout the Nation.

Education from the cradle to the grave cannot ignore the imperative necessity of education for work.

EDUCATIONAL PROGRAMS TO COPE WITH MANPOWER PROBLEMS

Dr. Rupert N. Evans
Dean, College of Education
University of Illinois

I want to talk to you about four changes that I think need to be made in vocational and technical education and to give you ten brief statements of their impact on local programs that I think will or at least certainly should come about. Two, three, or four of the best vocational programs in the country don't need much change. They are on pretty sound ground now, but for most of the rest there is a good deal that needs to be done -- substantial changes that need to be made.

The first change that I would suggest is a change not in the philosophy of vocational education but rather in the philosophy of vocational education which is held by national leaders, by state leaders, and by leaders in local school districts. Yes, even in the district where I served on the school board, the basic philosophy they saw for vocational education is that is was designed to aid local employers to meet their employment needs. They didn't see the philosophy that Dr. Barlow pointed out in a number of early references to sixty years ago when the emphasis was on the development of the individual instead of just on meeting employer's needs.

There are many people including some school superintendents, board members, and vocational educators who give lip service to meeting the needs of individuals. When you see a national policy, state policy, or a local policy that tends to say, "Times are tough, jobs are hard to get, let's kill vocational education" -- that is a sure sign that their major interest and major emphasis and major philosophy is on meeting employment needs rather than on serving the needs of individuals. If instead, they say, "We have just as many boys and girls in the high school this year as we had ten years ago, but we ought to have twice as much vocational education education, because students are learning from it," then you know that they are taking the needs of students into account.

If the local district says (and if it is reinforced by national policies as it has been for many, many years) that the local program in vocational education ought to be determined solely by a local advisory committee without consideration of the mobility of the students being developed, then the emphasis is on the wrong thing. If the emphasis in the vocational program is on those students who almost certainly would get employed without vocational education, and if we are giving further educational development for students who need it least, then the chances are that what is happening is that the local vocational program is aimed at pleasing the local employer and forgetting about the needs of the students. It is very easy to "skim off the cream" and say we are filling the need.

The second change I think needs to be made (and this is tied to the first one) is a change in the proportion of youth and adults who have an opportunity to receive sound vocational and technical education. Not over 20 per cent of our youth and less than that of our adults, have a real opportunity for vocational and technical education of the type that they need. This twenty per cent ought to be at least 50 per cent of youth and adults who should be served by vocational and technical education. The biggest criticism I have at the high school level has to do with those three curricula that we almost universally support: the college preparatory curriculum which does a first rate job for those who are enrolled in it who do go on to college; the vocational curriculum which enrolls about 20 per cent of the students on the average, not very often those who need it the most; and the so-called general curriculum. This general curriculum is the one that takes the dropouts and the kick-outs from the other curricula and puts them together with the students who don't know where they are going. These are all put together in a potpourri called the general curriculum. This is the curriculum that really "gets under my skin". I think the only thing that general curriculum has going for it is the fact that it has 'general' in its title which is assumed to mean general education and general education is good. Well, I am for general education too, but the 'general' in the phrase, "general curriculum" means not specific, not designed for anything, not leading any place. That is what 'general' means in the general curriculum. It ought to be killed.

The third change I hope to see made is a change in the recruitment and education of teachers and administrators for vocational education. This is long overdue. There is a real generation gap here. Just twice in our history have we trained vocational education teachers and administrators on a sizeable scale. Once, in the late 1910's and early 1920's and once, in the war production program in the early 1940's; then, we didn't do a thing more until 1968. In 1963 the state directors and local directors of vocational education in the country said, "Forget it, we don't need teachers, we don't need administrators, we can develop them on-the-job." Well, some have been developed, but we haven't developed enough. Finally we are getting around to recognizing that we have to be concerned not with just the development of teachers and administrators for vocational and technical education in the public school, but we have to be concerned with a broader labor market because there are agencies such as the Job Corps, Manpower Development Training programs, Opportunity Industrialization centers, and a few other similar agencies. All of these training programs are calling for the same sorts of people and drawing from the same labor market. We are getting some good people into vocational education but overall, both the quantity and quality of personnel need to be boosted.

Fourth, (and I will just briefly touch on this because I just don't have time to go into if fully) we need some changes in our means of evaluation and in our research in vocational and technical education. Just two quick examples: One, our principal evaluation device is the determination of what is the proportion of people trained in an occupation who are employed in that occupation within three months or six months after graduation. This is a convenient evaluation tool. The only catch to it is that if you want to maximize immediate placement you will maximize the narrowness of the vocational program that you provide because that is what helps you with initial placement. What we need is evaluation over at least a ten year period to show what programs are producing people who not only get jobs but who progress in them over a long period of time.

We know right now that the graduates of today's vocational programs get jobs faster, hold them longer, get better salaries, and even more important, to my way of thinking, are better satisfied on the job than people who haven't gone through vocational programs. We know very little about the people who have not had vocational education programs. There is one mighty big problem that bothers me and I hope it bothers some other people in the nation. This is the fact that if a youth is between 16 and 22 years of age, he can't get a job. You know what the youth unemployment rates are. They are sky high and they are continuing to get higher. During that age range he can't get a job but by the time he gets to be 26, 28, or 30 years old, he can get a job. We don't know what happens to him in the meantime; we need to know what is happening to him in the meantime. My guess is that one of the things that happens is that he has acquired a certain measure of vocational education through a process of being hired and fired 25 different times. But I am not sure of that and I suggest that this be a major emphasis in research right now.

Now, if we had these four changes in philosophy, what would the vocational and technical education program look like?

I am going to look at my crystal ball and give you ten changes that I think will occur. If you have heard me talk before, you have heard at least nine of the ten points but one of them you haven't heard,at least not from me, and I am going to save it for last just to keep you awake. I have just been working on this last one and it is intriguing to me. Maybe you have the answer to it.

First, we need a program to meet the needs of a far larger proportion of our youth and adults than are being served now. We are going to have a considerable expansion in part-time co-op programs and other concurrent work-education programs, both in the senior high schools and in junior and community colleges. The means of furthering this will be Federal legislation providing a subsidy to the employer to take care of the excess training costs that are incurred by the employer in taking on youth that he would not normally employ.

Second, I think we are going to see in some parts of the country, including this part, some large residential, comprehensive high schools. This is the only solution that I see for meeting the vocational and technical needs of youth who come from sparsely populated portions of this country. I think we are going to continue to see greater and greater school consolidation because this is the only way you can get the economy of scale that you have to have if you are going to provide a breadth of opportunity -- not just in vocational education but in most other types of specialized education.

Third, I think we are going to see teachers increasingly employed on a twelve month basis with three months out of the year being used for personal development. This is the only solution I see for keeping teachers up to date in a rapidly changing field. I hope that we do it in general education as well as in vocational education. Put teachers to work twelve months out of the year, pay them twelve months out of the year, and if the teacher needs occupational experience, give it to him or her. If the teacher needs some experience in curriculum development, put him to work on this. Give him whatever is needed to make him a better teacher.

Fourth, I think you are going to see "world of work" instruction beginning in the early childhood education program and continuing right on through school, with more and more depth, of course, as you go through secondary and into higher education. This world of work instruction is going to involve more and more of the teachers in general education because they are under pressure to teach more and more about the contemporary world.

Fifth, it is a real pleasure to look at curriculum materials that have been developed jointly by general educators and vocational educators in which the English course emphasizes some things that are important to occupations; and, the vocational course emphasizes some things that are important in English. We talk a lot about it but we haven't done much about it. But, I think more is going to be done through that good old Federal technique, educational bribery. We will pay some people to develop curriculum materials for us, because federal support for curriculum development in occupational education is as important as it is in math and science. We have had millions of dollars poured into math and science curricula, and it is going to take more millions to do the vocational education job right, because, you see, I don't want just one curriculum developed for each phase of vocational and technical education, I want a minimum of two so that each school district has a choice. I don't like dictated curricula.

Sixth (maybe this is a pipe dream but I don't think so), one of these days we are going to see vocational and technical education funds distributed on the basis of performance instead of on the basis of how many teachers you have in the vocational and technical program.

I don't know whether you recognize this or not but we have quite a crazy set-up for reimbursement. For example, here is one school that has a vocational program, with one teacher and 20 students starting out at the beginning of the year. Twenty-two students are in the program at the end of the year. The state gives so many dollars based on the amount of the salary paid to that teacher. Here is another school which has one teacher and 20 students starting out at the first of the year. At the end of the first six weeks there are four students left. You couldn't get anybody else into the program on a bet. The end of the year comes and the school receives the same number of dollars from the state. Now, we wouldn't think of doing this in distributing state funds for any other type of education, but that is the way it is done in vocational-technical education.

I can think of other ways in which performance could be rewarded but let's at least get performance of the type that recognizes whether or not you hold students in the program. We should reward the school districts that do hold students in programs and penalize the school districts that don't. There is no justification for putting a premium on dropouts.

Seventh, there should be a general requirement that every student who graduates from high school must have a salable skill. I would be willing to start small. Let's require everybody who is not in the college preparatory curriculum to have a salable skill at the time of graduation. I can give you a good argument as to why the college preparatory students ought to have salable skills, too, but let us start small; let us only insist that half of the students coming out of the high school have a salable skill at the time of graduation. My second step would be to require this of each student before he is permitted to drop out. Dropouts without salable skills who don't have a high school diploma have trouble getting jobs. They are also at the low end of the age spectrum which makes it difficult for them to get jobs. It is no wonder that for black youth, the unemployment rate is 25 per cent for males and 30 per cent for females. This is an underestimate because we can't count all of the males since the census hasn't discovered how to find them to count them. Secondly, it is an underestimate because, by some curious logic, if you are not looking for work you are not unemployed. If someone has been looking for work with the best of intention for two or three years but hasn't been able to find it, and if he finally gives up, the next time the person from the census comes around and says, "Are you looking for a job?" and the answer is, "No, I am not looking for a job," that man is not counted as unemployed. He is counted in just the same category as the housewife who figures she has a full-time job staying home and taking care of the children. I don't think they are in exactly the same category.

Eighth, we have to rebuild our counseling services so that we spend at least as much time counseling people about employment as we do about higher education. I don't know what the ratio is now but some studies have shown that there is virtually no time being spent on occupational counseling or on educational counseling related to an occupation, unless the occupation happens to be a profession. But I go beyond this to insist that every high school have within that school a placement service with adequate feedback to the faculty, administration, and other students about the strengths and weaknesses of their attitudes. If you can persuade the state employment service to come in and if you can find money to help support them to do this, fine. If you can't, do it yourself. Because I maintain that this is a vital part of an educational program. Maybe if we get this kind of placement service with its built-in feedback, we can get to the ideal that Paul Briggs has brought forward and cut our high school exit to employment. There would be no other exit. This is what we need.

Ninth, eventually we will provide free vocational and technical education for all people who need it regardless of age. This has been very nearly achieved in a few places around the country. But in most parts of the country we haven't touched it. We don't do a very good job of making even elementary and secondary education free these days. But the situation is much worse in post-secondary education. I would be happy to see vocational education for adults utterly free but let us just make it relatively free; let us just make it relatively available. We find states in this nation where higher education has moved in and who have said, "We will take care of everything beyond the secondary school level, but you must forget about vocational and technical programs." We have community colleges that have been set up with a transfer program and a liberal arts faculty because that was the thing they could get started in the limited space that they had. The faculty was ideal for that program. Then, the citizens say to the faculty, "The time has come to expand to vocational and technical education." But the faculty says, "We don't believe in that kind of education." You can't exactly blame the faculty. After all, they were selected for one program and the junior college got exactly what it selected. But the needs of society must be served, and if the faculty won't change, they must be replaced.

Tenth and last I wish you would think with me about this problem, and if any of you have any ideas, I would appreciate hearing from you. Here is the way it goes. If we have a good vocational program that is meeting the needs of youth, it has to have some relationship to the availability of jobs. Let's suppose that in a particular occupational field in a particular region of the country we have a need for 1,000 people. Let's say that vocational and technical education plus other sources of training were training 800 people a year. That is 200 less than the demand so there should be no problem. The catch is that this 800 that we are training, all get out of school in June. Openings in employment don't just happen to come in June. In fact, June is a mighty rough month because this is the month when all the students come home from college. These students also seek jobs for the summer to tide them over so they can go back to college. This is the time that we choose to put 800 people on a market that can take 1,000 during the whole year.

Now, what happens? Some of these 800 people get into occupations for which they had no interest and no preparation. Some of them don't get out of these occupations. They may be stuck in a job that requires no formal education even though it pays reasonable well (we have to pay pretty well to get anybody to dump garbage now). Perhaps the fellow got married and his wife became pregnant before one of these 1,000 jobs for which he was trained, became available.

Now, let me suggest something I think is a possible answer to this unhealthy situation. Maybe somebody has tried this and if they have I would surely like to know about it.

We know that some people learn faster than others. Yet, typical school program is set up on the basis that everybody spends the same amount of time in going through the program. We justify this by saying, "Well, we don't have time to teach everybody as much as they ought to know anyway, so we will go into it in greater depth with the bright student." But suppose that you put these two problems together, the program of dumping everybody out in June together with the problem of some people taking longer to learn than others do. Suppose that we started putting some of our brighter students out of school in October on a cooperative work-education program so that they are under the tutelage of the school and can be brought back if they have problems. Then, some of the students who are not quite so bright but still pretty bright, would be ready in December or January. And by the time the school year ends, perhaps you would have the ideal situation where the instructor in the laboratory in the school is working with three or four of the people who most need help. The instructor could then give time and real individual attention to these students.

We would have the advantage of placing students out on jobs at various times during the year instead of releasing them all at once. Think about it. I would like to hear your reactions and above all, if you know of anybody who is doing anything like this or anything else that gets at the problem of releasing everybody from school at the same time of the year, please let me know.

You may think my suggested program is idealistic, it is. I am going to go on having ideals and I know you are too. Maybe some of these ideals that I have laid out will become yours or at least have an effect on some of your ideas.

I am very pleased with the 1968 amendments that I hope are going to be passed today. But next we have to get through the appropriations stage. We have some major uncertainties in Washington. I am afraid that one of these days there will be come decisions upstairs that say that vocational education is going to be transferred out of the U. S. Office of Education and divorced from the rest of education. If that happens it would be the greatest blow not just to vocational education but to general education as well, that this country has ever faced.

I commend to your attention the canary-colored publication that you have in your folder. That is one of the three reports of our ad-hoc advisory council. I hope the other long one is out soon so you can see it. Some of you have access to it through the Senate committee reprint. But I say to you that of the twenty-odd recommendations that we have made, one, to my way of thinking, stands out above all others and that is the recommendation that we have a cabinet level Department of Education and Manpower Development to tie these things together once and for all and to get some unity in our programs. Our goal must continue to be to develop people in the best way possible.

INDUSTRY AND BUSINESS BRIDGING THE GAPS IN THE PREPARATION OF YOUTH

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The inherent values and benefits of the involvement of industry, business, labor, and professional people[1] in vocational and technical education has been taken as a matter of course for over 50 years by both educators and representatives of the private sector of our economy. After so long a period, it would appear that little new could possibly be said on this subject. As a matter of fact, that *is* the trouble -- *little new has been said* during most of those 50 years!

While occasional questions have been asked as to the gap between the practice of industry-education cooperation and the high-flown phrases about its desirability, little open discussion of problems involved in the practicum was reported prior to 1962. In that year, at a meeting sponsored by the U. S. Office of Education, a panel was asked to consider the topic, "Industry-Education Cooperation -- Fact or Myth." Cooperation *per se* was found to be a fact -- primarily through the medium of informal relationships between instructors and company foremen, supervisors, personnel directors, etc. However, the much twisted vehicle for achieving such cooperation -- the industry-education advisory committee -- was found to be a myth. This is still true today in many schools and school systems throughout the country.

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[1] The word "industry" will be used, for convenience, to include business labor, industry, and others in the private sector of our economy.

Yet the advisory committee, as the formal means for achieving and channeling industry interest and support of vocational-technical education can be highly effective and has proven to be so when properly organized, staffed and guided by responsible educators. Herein is the root of the problem -- most educators have exhibited an abysmal ignorance of how to properly organize industry-education advisory committees, what is required to properly guide such committees in the performance of their responsibilities, and the need for providing staff to assure optimum results from the effort, time and money expended by the committees. As a result, the more committees formed over the years, the larger the number of industry people who have become dissatisfied and disaffected with vocational education and educators! I have no hesitation in blaming much of the poor image of vocational education among many industry people on the fact of their poor experience as members of vocational education advisory committees!! We have literally created our own Frankenstein. How then do we take a good idea -- a right idea -- and make it work?

As I indicated a moment ago, there is a body of successful experience on which we can build strategies, tactics, and procedures for achieving continuing and effective formal, as well as informal, industry-education cooperation. My book[2] on this subject documents some of these experiences. Some of the more important operating principles which could be identified by analyzing these case studies are contained in an article I wrote which became a chapter in the AAJC booklet dealing with junior college use of advisory committees.[3]

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[2] Samuel M. Burt, Industry and Vocational-Technical Education, (New York: McGraw-Hill Book Co., 1967).

[3] Samuel M. Burt, "If I were a Member of an Advisory Committee," University of Michigan Leadership Development Seminar, Ann Arbor, 8/15/67.

In that article I suggested that vocational educators imagine themselves as industry members of an advisory committee, and while in that imaginary state, determine what they would want from the school people who organized the committee. Then I asked the educators to revert to their role as schoolmen, and to "do what you would have others do unto you!" Since I want to explore with you some new directions this afternoon, I will repeat only two basic points you must take into account if you are really serious about involving industry people in vocational-technical education programs:

1. A full-time staff member must be assigned this responsibility;
2. Industry-education advisory committees is a misnomer -- what educators really want and need are cooperating committees.

For the next few moments, I will discuss some new tactics which I have been recommending to vocational educators in assuring effective functioning of industry-education cooperative committees -- if you will indulge me in my insistence on using this phrase -- recognizing the word "cooperation" as including the responsibility for providing advice. Incidentally, with respect to this matter of "advice", I have frequently found that it comes as a complete surprise to many educators that industry people must first be provided advice concerning school programs and problems before they can be asked to advise on what the schools should and can do! Most industry people haven't been in a high school building since they graduated. Few of them were even enrolled in a vocational course. Unless they have been involved as educators, board of education members, personnel managers or industry trainers during some part of their adult life, they are not in a position to provide advice off the top of their heads on a subject so complex as vocational-technical education! Even professional educators don't have the answers -- if they did they wouldn't be seeking advice from industry people.

The first order of business, then, should certainly be to provide the committee members with a continuing flow of information concerning the programs and problems of occupational education generally, with specific reference to the particular school system, school and occupational programs the committee has been organized to serve. Once they have acquired this background, any advice the committee might offer could be expected to be well taken; any support the educators might want from the committee can be expected to be forthcoming. I have found that a committee organized on this conceptual basis will want to meet more than once a year, and they will work at continuing their memberships beyond the usual one-year term. As a matter of fact, it may take a year before the committee can be in a position to offer any meaningful advice and help!

A strategy to assure the formation of a really interested an involved cooperating committee is rarely used by educators. Their usual procedure for organizing a committee is to appoint the committee members, and then, at the first meeting, elect a chairman. I strongly urge a reversal of this procedure. First, appoint the man you want as chairman, and then, with his advice, select the remainder of the committee. If you have appointed the right man as chairman, he will know the right men and women, in his industry and in the community who can do the most good for the school. Not only that, he will pick people who will work with him harmoniously. Since it is the chairman of a committee who sets its tone and who does most of the work anyway, he should have a major voice in who should serve on his committee. Moreover, by sharing with educators in the responsibility for the selection of his committee members, he becomes jointly responsible for the success or failure of the committee!

One more point I want to present concerning the pragmatism of involving committee members deals with providing them some visible recognition of appreciation of their services. Some of you have heard me rant on this subject and have been influenced accordingly. One such person is Ralph Wenrich of the University of Michigan. He credits me for the fact that when he was appointed a member of the board of trustees to a new junior college, he insisted that the college catalog carry the names of the members of all the advisory committees. When he showed me the catalog, he said he would have resigned from the board rather than face my wrath if the committee members and the company affiliation hadn't been listed! There are still too few schoolmen who appreciate the benefits which can accrue to their schools by providing such public recognition to their cooperating committee members. One school I recently visited does understand. In each shop of this school there is a special bulletin board containing 8 x 10 color photographs of every members of the committee for that particular program. I recommend this action for all vocational and technical education shops and laboratories. Seeing one's name in print is very nice. Seeing your name and picture publicized is even better.

But there are even more important reasons for vocational educators to publicize their cooperative relationships with industry. One reason was brought out in a recent study[4] of the decisions by industrialists to locate their plants in a particular community. The researchers found that those companies which did consider the existence of vocational and technical schools were also interested in the attitudes of the community toward the schools. These industrialists also examined the literature and brochures from the schools. Can you suggest a more effective way to demonstrate the cooperative community relationship existing between schools and industry to prospective new companies than for these companies to see the names and company affiliations of industry advisory committee members in the school brochures. Here is a direct tie-in between vocational education in an area and that area's economic development efforts.

Appreciation of this relationship by vocational educators is still a very much "sometime thing". In examining 28 reports of studies of vocational education needs conducted by commissions appointed for as many regional areas in Michigan, I found that 11 of the commissions did not include industry representatives, one commission had one industry member, and there was some evidence that two commissions did have industry representatives. The remaining 14 commissions did include industry people on either their policy, executive or working committees. How educators can rationalize an in-depth study of an area's manpower and vocational-technical education needs without advice and guidance from industry and business people is beyond me!! The interesting thing about these regional commission studies is that each one recommended the establishment of improved vocational education programs with the guidance and assistance of industry advisory committees.

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[4] Earnest H. Dean, Implication of Vocational Education for Plant Site Location, May 31, 1967, U.S. Office of Education Grant No. 4-7-068498-0408.

Industry people want to be involved -- more so today, in my opinion, than ever before. As a matter of fact, they will be insisting on involvement because they are currently going through the traumatic experience of learning what happens to their businesses when schools do a poor job of preparing young people for the world of work. Not only are they suffering from a shortage of skilled manpower -- they are also having to take on the burden of remedial education and training of large numbers of individuals whom the schools had failed, for whatever reason, to properly educate and train for the world of work. The manpower program of our nation is cajoling, persuading, subsidizing, and bludgeoning employers to turn their offices and plants into educational institutions and social service agencies to provide services for adults which they should have, but did not obtain, during their school years. Whatever the justifiable reasons for the failure of the schools, employers have recognized that if they are ever to get out from under industry remedial and compensatory education and training programs for their employees, they must make certain that the schools do the job that they are supposed to do before individuals become "disadvantaged" and "hard-core unemployables."

Another movement of recent years, enforcing the determination of employers to become involved in school programs, has been the widespread utilization of industry advisory committees for war-on-poverty projects such as Job Corps Centers, MDTA training programs, CEP, and the like. The utilization of industry advisory committees has been mandatory for most of these programs. How well these committees were, and are being used, is another story; but the fact remains that many thousands of employers have recently been brought into the education and training programs of our nation for the first time.

At the very least, they have learned something about the difficulties of the uneducated and the unskilled poor segments of our population and the social costs involved to themselves personally, to their companies, to their communities and to our nation. Through their experiences as members of manpower development advisory committees they have come to realize the need for their involvement in not only vocational education, but the entire gamut of educational programs. Many employers are quite ready and willing to assist vocational and technical educators in particular, and are even taking the initiative in involving themselves in school programs and problems.

The extent to which companies will participate in school affairs is documented in a current report of the National Industrial Conference Board.[5] Of 1,033 companies questioned the following number (in percentages) expressed willingness to initiate action on:

a.	Improvement and expansion of local school facilities	55.6 per cent
b.	Improvement of local school curriculum	48.5 per cent
c.	Problems associated with school dropouts	53.9 per cent

While we can be pleased that approximately 50 per cent are willing to become involved, it is obvious that schoolmen should be doing something about the other 50 per cent. The most important first step, of course, is to properly involve those companies already willing to participate, and then have these companies recruit those in their communities not yet involved in school programs and problems. This is easier said than done, for I am convinced as I pointed out earlier, that many vocatioal educators at this point in time are lacking in knowledge, skills and ability to develop effective programs of industrial education cooperation.

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[5] *The Role of Business in Public Affairs*, National Industrial Conference Board, New York, Studies in Public Affairs Research Report No. 2, 1968.

My experience with industry people convinces me that the NICB report is correct in its assessment of employer willingness to initiate action in becoming involved in schools, and I plan to devote a considerable part of my effort in working with industry people to point out how they can become so involved. I shall, of course, continue to work with educators, since I much prefer that educators take the initiative.

I have already undertaken the double-barrelled approach in serving as a consultant to the Arkansas State Department of Education in a project I consider a model for meaningful involvement and participation by industry. Employers in Arkansas, like employers everywhere else in the U.S., are concerned with the problems of improving and expanding vocational and technical educational opportunities for youth and adults. They are also concerned with the economic well-being and growth of their communities, regions and the state. Taking into account these two concerns, which, of course, have a direct impact on the profitability and growth of their businesses, we have organized employers, government agency officials, educators, and economic planners into eight Regional Manpower Advisory Councils for Economic Development. The activities of these Regional Councils are directed and coordinated by a

State Manpower Advisory Council for Economic Development. Under the aegis of these Councils, the State Department of Education, and the Industrial Research and Extension Center of the University of Arkansas are conducting a number of studies concerning manpower availability, education and training programs in terms of economic development needs. One of the major phases of the project deals with an evaluation of existing occupational education programs in the secondary and post-secondary schools. This evaluation will be made by the Regional Council members -- not by professional educators. The first step has been for each industry member of the Councils to "adopt" a school in his community in order to become thoroughly familiar with its programs and problems. The second step will be an in-depth evaluation of all occupational education programs offered by the school. The third step will be an evaluation of how well these school are utilizing industry-advisory committees.

This past month, over 40 Council members visited vocational-technical schools in states surrounding Arkansas, so that they will have a basis for comparing what they find in Arkansas. Combining their first-hand observations with the special reports and background papers they are being provided by educators and economists, the Regional Councils will make their recommendations for any changes they may decide as being necessary, and submit them to the State Department of Education, the Governor's office and the legislature. Since these recommendations will be the "creature" of the Councils themselves, it is expected they will take the necessary action to assure implementation of their recommendations, including publicity, political pressure, etc.

It is also expected they will continue functioning, not only to improve school programs, but also to improve the entire manpower development program of the state. Whether or not this will happen, our initial thesis is being proved correct, namely, that given proper guidance, industry people will involve themselves in educational matters. This "proper guidance" is being provided the Council members by means of specially prepared guideline checklists for each phase of the project. For example, in the matter of "adopting" a school, we have provided each industry person a series of questions which he is to discuss with the school principal on his first visit to the school. Another guideline checklist has been prepared for conducting the evaluation of a school occupational program. As an example of a background paper, we have prepared one titled, "A Look At Occupational Education in the High Schools in Arkansas," and will do a follow-up paper going into detail about several secondary and post-secondary schools in each Region. This latter series of papers will include detailed information concerning costs of operation, along the lines of a balance sheet and "profit and loss" statement. It's one thing to know, e.g., that "X" million dollars is being spent on education in a state, but it's something else to learn that it takes a million dollars a year to "operate that crummy school four blocks down the street." The dollar figures for a familiar situation are expected to have a much greater impact than astronomical figures for unfamiliar situations. I see no reason why industry and business people should not know what it costs to run a school or a vocational program. I am betting that once they do know, they will have more respect for vocational education.

But all of this effort in which we are engaged in Arkansas will be for naught if no provision is made for continuing the Regional

Councils as a continuing body, permanent staff must be assigned. Staff can be made available from several possible sources. One possibility is for industry itself to provide the needed money for staff, as is being done by Industry-Education Councils in California, Arizona and a few other states. Another possibility is to utilize a member of the State Department of Education or the Vocational Education Research Coordinating Unit whose salaries are funded in part or whole under the Vocational Education Act of 1963.

Staffing of advisory councils in the field of vocational and technical education has come to be recognized as a basic necessity for assuring any degree of effectiveness for these councils. Amendments to the VEA of 1963 passed by the Senate yesterday, and probably already approved by the House today, have recognized this fact by making provision for staffing of the National Advisory Council and State Advisory Councils. Of particular interest to use who are concerned with industry involvement in vocational education is the fact that for the first time in the history of federal legislation for vocational education, the responsibilities and functions of state advisory councils are set forth in considerable detail. There are over 20 references to advisory councils and industry involvement in these amendments. Our government has legislated "cooperation of volunteers," the volunteers in this case being industry people. I can't think of a finer commentary on our way of life than this recognition and acknowledgement by Congress that industry does indeed have a social conscience.

On the other hand, we as vocational educators cannot take too much heart from this legislation because Congress has said, in so many words, that we have not demonstrated any great deal of sophistication, imagination or administrative ability in utilizing and directing the social conscience of industry in helping achieve the overall goals of vocational education. I must agree. It is for that reason I have devoted so much of my presentation to the "nitty-gritty" of working with local advisory committees in order to develop their full potential as cooperating committees. And now that the State Advisory Council is to become a very real force in the development and evaluation of vocational and technical education, I want to suggest some "nitty-gritty" for State Councils.

Few, if any states, to the best of my knowledge, have made any effective use of the combined interests and knowledge of their local and state advisory councils. There has been little, if any, communication between the local groups and the state group. Furthermore, there is no provision for such communication in the current legislation. Yet, how can the State Council develop meaningful plans and programs without taking into account the needs of local communities and regional metropolitan areas of the state? This oversight can be easily corrected by having the State Council arrange for a formal communications system with local school system advisory committees, or better yet, along the lines of the Regional Manpower Advisory Councils as I described them in Arkansas. Another possibility is for the State Council to establish a series of sub-committees for each of the major economic and industrial facets of the state. Membership on these industry sub-committees could consist primarily of local advisory committee members from the particular industry. For example, if the printing industry is a major industry in the state, there will undoubtedly be several vocational schools teaching printing, and each school would have a printing and each school would have a printing industry-education advisory committee. The chairman of each of these committees could be asked to serve on the State Advisory Council's Printing Industry Sub-Committee. In this way, both the interests of the industry and schools, at the local and state level, would be represented in the deliberations of the state level, would be represented in the deliberations of the State Council. Furthermore, the interest, knowledge and involvement in school matters of local industry people would be enhanced by their participation in the work of the State Council.

While I have discussed several imperatives for vocational educators to facilitate industry participation and involvement in school programs, let me make clear the most urgent imperative of all -- the job and career placement of vocational education program graduates in the occupations and occupational fields for which they have prepared themselves. The report of a nationwide study published just a few months ago found:

> - - - a strong relationship between the use of such (advisory) committees and the placement of vocational graduates into their field. Schools with such committees did substantially better in placing their graduates than those without such committees . . . . Other benefits were also cited that were clearly to the good of vocational education.[6]

The study recommended the expansion of advisory committees under the leadership of State Offices of Education, and pointed out that few local schools and school systems were utilizing advisory committees. Only 35 per cent of the schools reported use of a general vocational program advisory committee, and only 33.6 per cent of the trade and industrial courses offered by 100 schools surveyed reported occupational advisory committees. These low percentages are indeed remarkable because they simply make no sense when you consider the exhortation of both industry and school people over the last 50 years as to the need for and benefits to be derived from the utilization of advisory committees.

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[6] M.U. Enninger, The Process of Product of T & I High School Level Vocational Education In the United States, Pittsburgh: Educational Systems Research Institute, April, 1968.

If vocational educators are to take seriously the message of the recent report of the National Advisory Council on Vocational Education, calling for a "bridge between school and the world of work," they will devote much energy and time to organizing effective industry-education advisory committees.

These committees can be that much sought after bridge. The American Vocational Association is planning to publish a new guidline booklet on this subject, and there already exists an excellent booklet on advisory committees recently published by the American Association of Junior Colleges.[7]

My message this evening can be summed up by three simple statements addressed to educators and school administrators:

1. If you don't want to both with involving industry in your vocational and technical education programs, don't bother to offer such programs in the first place. Without industry involvement, these programs will be frauds perpetrated on the students, their parents, the employers, and the communities.

2. If you do establish vocational and technical education programs, you can obtain the greatest benefit from industry participation through the vehicle of industry-education cooperating committees, and you

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[7] Albert J. Riendeau, The Role of the Advisory Committee in Occupational Education in the Junior College (Washington, D.C.: American Association of Junior Colleges, 1967).

should organize such committees; recognizing, of course, the need for continuing informal relationships between industry representatives and instructors, and providing time for such informal relationships.

3. In order to make certain these committees will function properly and effectively, you must assign qualified staff who will devote their full-time and energy to developing industry-education cooperation, both formally and informally.

Everything else I have said is but commentary.

BRIDGING: YESTERDAY, TODAY, AND TOMORROW IN VOCATIONAL EDUCATION

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Columbus, Ohio

I happen to be one who believes deeply in vocational education as all of you do. My interest in this field grows out of a research study conducted in 1936. It was conducted in a city in Ohio by two of us. I traveled the streets of that city after having graduated from high school looking for work and every place I went they asked me one question, "What can you do?" My answer was that I had four years of Latin, one year of German, four years of math, four years of Science and if a subject were required in the school, I had it. They said, "That is fine, young man, but what can you do?" It was some years later when I got close to a vocational education program and saw one in operation that I said, "This is where I want to be." I was lucky enough to get a chance to be a part of vocational education. So mine is not an accidental interest. I didn't back into the field accidentally. I got into it because I know what they asked me. Don't talk to me about the values of a classical educational background. Don't try to sell me on all the great intangibles it has. If I hadn't had a chance to go to school because there was a university in that city, I wouldn't have had a chance at all to be here today or to be in my job. At one time I offered to work for nothing to learn tool and die work. The company didn't think I was worthy of this opportunity.

I would like to do some boating. I think it is a challenge to take a boat out on a lake and to go some place that you can't see from land and have to depend on yourself, on the boat and upon your own direction. Occasionally, there is a weather report given that really challenges you in boating. Perhaps, the weather report goes something like this: "Winds variable, strong from all directions, occasional thunder storms, gusts up to 40 miles per hour, small craft warnings up." That presents a real challenge when you decide to go some place you can't see from land. It takes a well planned course with check points, a good compass, a stout ship, and either an able or a stupid pilot. You know, I think we are somewhat like this at this point in vocational education with a similar kind of forecast -- strong winds from all directions, thunder storms, gusts to drive you off course and small craft warnings up.

People who don't believe in vocational education or don't know it, had better get out because it isn't going to be easy. You think you have had it rough up to now but you haven't seen anything yet. You have been asking for money and for a chance. Well, you have it now. It is going to be much tougher than you have ever thought or believed. To succeed it is going to take a well-planned pattern of expansion; it is going to take the sound principles that our friend, Dr. Barlow, outlined; it is going to take quality programs, the type Dr. Evans was speaking of; and it is going to take able leadership. There will be no time to be following every ship that crosses your bow. The hardest thing you will be doing is to be going across a lake when you can't see anything and have a ship come up and cross you. Head just a little off from where you are -- your compass and your plans say you should go this way but the other ship is going that way. The greatest sensation in the world is to assume that the captain of the ship you are following knows where he is going, and to take off and following knows where he is going, and to take off and follow him. I had a friend who did that. He ended up 100 miles from where he planned to be. You can't follow ships when you aren't sure where they are going. You had better know where you are going in vocational education.

You cannot forget yesterday and work today, ignoring tomorrow. I don't think you are going to be satisfied with pilot programs and small efforts. There was a time in which we said the way to be successful in vocational education was to make your program so popular that you had more influence and more students than you could take; then you could be selective. Forget it. I took a task force of people around Ohio from our Governor's office. The thing they wanted to know was whether every boy and girl gets the training he wants. One of the places didn't say "yes" and they became very critical of them. Our problem is not a selection process today. You can't hide in the corner of education crying for an opportunity. You are in the spotlight now -- you are popular. You are important. Well, at least your programs are important but you may not be important if you don't get with it. It has not been decided yet whether vocational educators with previous background experience are going to be the leadership in the movement of vocational education. Dr. Evans eluded to this in his presentation. There may be a period of time in which there is great danger that the people who havent' done as well with other educational programs as they would like, will want to take on the responsibility of reorganizing vocational education in that same image. If you think I am concerned and upset, you are right.

We must be willing to accept the responsibility to serve a majority of the youth in the labor market. This isn't the same ball game you have been playing. It isn't the same ball game when you talk about a majority of the youth as the majority of the unemployed looking for work. Yesterday in looking at the bridging from yesterday, the entrance of the 1918 act and on up to the 1963 act, the emphasis was upon the need for preparation of skilled workers to build our economy. Today the present legislation has a totally different thrust for us -- a totally different thrust in what is said and what it is that pushes you in that direction in terms of social problems facing a troubled nation. Our society has tried everything else; vocational education is next. Make no mistake about it.

Tomorrow I would predict a combination of the above in terms of a technological society requiring a person for every job and a job for every person. There is now thinking that if you don't plan for ups and downs in our economy, you will need to plan to have a lot of hungry, unemployed people. There is a sneaking suspicion that such a condition would overthrow our whole government. Which do we look to: yesterday, today, or tomorrow?

I recall an experience that will give my reaction to this situation. I asked one time about going out for a marathon running when I was in school. I said, "Now, this is the place to start, you run along at average rate, and then you try to finish fast." They said, "No, you start fast, you run faster, and you finish fastest." That is my feeling in terms of vocational education. We can't forget yesterday in terms of skills. In 1956 at the AVA in St. Louis (maybe there are some in this room who were there with me) a representative from industry who was the planning director from one of the major industries, stood up and said, "You are training machinists. Ha, ha, forget it. In three or four years we will not need machinists." I listened but it didn't make sense to me. In 1965 as stated by our state employment service (and we have an excellent one), the number one shortage occupation in the State of Ohio was machinists. That was ten years after this gentleman told us to forget training skilled workers.

I met with Governor Rhodes recently and if you have an industry in your state that you don't want just let Governor Rhodes know. He will have a whole team over after it. These people are from industry who go out after more industry for our state because we are convinced the only way you can build a state is through jobs. He has a very simple philosophy, "Jobs". I met with 34 people and I was all set to sell them vocational education when the man introducing me said, "Don't bother to sell us vocational education. Just tell us how to get it." The first, second, third, or fourth question the people asked us when we talked about them coming to our state is where will they get training for their instructors. They asked me not to give them a sales pitch but just tell them how they can get training.

Well, what was impressive was the need of industry for skilled people. This is still their need in this period of emphasis on shop problems. We can't ignore that and chase another boat across the lake.

Chrysler in our state says, "Why should we do our own training? We are tax payers, we help pay, we support you, but we expect you to give educational leadership in our area." We hear about the growth of service occupations and I am concerned. We are going to have more people in service occupations but nobody has told me yet why there are more people. In terms of retirement age in the skilled crafts, men are going to be gone, and replacements will be needed. I am concerned lest we take this other ship going across our bow of only the service occupations and begin to chase that one. Only if you produce can you have service. You can't have service without production. So to me the point is very simple. Fortune Magazine says there is going to be a skill shortage in the 70's. A skill shortage in the 70's -- not a brain drain. We will have that too, perhaps, but we will have a skill shortage which will hamper our economic growth.

So, one point in bridging yesterday, today, and tomorrow is -- you cannot forget what you have been doing. You can't ignore the need for skill in Agriculture, Business, Distribution, T & I Education, and other areas.

According to the 1966 figures we could get was that 76 graduated. Don't laugh at Ohio, look at Ohio, look at your own state first. You may not laugh at the facts. We have already lost 24 so to me it is academic when you say, should we have vocational education at the high school or only post-high school. My answer is that you had better have it at both. If you gave me the chance to have all the vocational education I would want at the post-high school, I would still say in the terms of needs of youth, it belongs in high school as well.

According to our Ohio Board of Regents, 32 of that group start college but only 14 will graduate. This isn't Shoemaker's figures, this is the Board of Regent's figures. Of that original 100 starting the first grade, 14 graduated from college. Educators say don't worry about that, they are going to be fine. Of those who graduate from vocational programs, don't worry about them, they are going to do fine. Well, we are only touching a part of the minority group of the people. Our job is the whole area. We have looked at the projects of what happens to people and what happens to jobs. Vocational-technical education (according to information) is going to increase 55 per cent professionally but nobody in Ohio knows what technical education is going to do. We are going to be in jobs which take people who know something and can do something.

We have talked through a questionnaire to probably over 200,000 students in Ohio through our guidance services. Not 10 or 20, or 30, or 40 -- over 200,000 and this is a sample of about 300,000 of those. This is what the students told us and it didn't vary 4 or 5 per cent whether I asked the questions in Utah, which I did, or in Ohio so some place else. 72.6 per cent had taken one to three years of college. 6.9 per cent had four or more years of college. Don't ask me to explain the difference between the 6.9 per cent that had a college degree and 7.6 per cent in the professions, I can't, except there are nurses who have three years who would qualify as professional.

Tomorrow's needs are shown clearly by the social problems of our day. Alice Wiedman, a columnist sometimes called a little bit of an alarmist, puts it strongly in order to get attention. This is the way she put it. "The root cause of urban poverty today in the U.S. is not prostitute mothers, drunken fathers, rats and cockroaches, broken homes and racial prejudice. The root causes are snobbish, impractical, intellectually dishonest and misguided public school education systems." I always put quotes around that because she said it, not me.

It is a shock approach for she is getting at a point which more and more people are beginning to question. To me these needs can not be met with a small high-quality program. You can't get by any more serving 10 to 30 per cent of the students. I tried to talk to two gentlemen about 40 per cent and they are giving me the business. They said, 40 per cent isn't reasonable. Talk to us about 60 per cent or 70 per cent if you want to be really a part of the answer, a part of solutions and not just remain a part of the problem.

Today and tomorrow requires vocational education programs for all ability levels, all age levels, all sections of the country and I am going back to all ability levels. We are very pleased in vocational education to proudly accept a responsibility and relationship with technical education. Man, did we like that when in 1958 they gave us a part of technical education; but how many of us have been so proudly willing to accept a responsibility for low-level programs? Are you proud of that? What have you done about it? Do you have an organized plan for broadly implementing a service? I am not talking about a pilot program. Do you have a pattern for broadly serving this group of young people who haven't been served by anybody? If you do not have it you had better get it or you won't be a part of the action.

It requires concepts of programs and services to make meaningful this concept for the total youth. We talked about it for years in education and we didn't even know what it meant. We are learning. The saddest thing about the Job Corps, and I mean this, is not the extremely high cost which the tax payers don't like but the fact that education didn't have to live with the problems that went with the Job Corps. They didn't have to live with those people 24 hours a day. What you learn when you live with them 24 hours a day gives a different perspective about what is wrong and what needs to be done. We see a total thing involving health services; over half of the drop-outs are unhealthy and ineligible for rehabilitation. A sad commentary to let a student out of school at the age of 17 or 18 and never find out he has such a problem that he can't possibly participate in education.

Remedial education service is an integral part of vocational education. We must provide skill training, technical knowledge, work habits, yes, money, if it takes this to keep the young people in school. I wouldn't have said this five years. I say, if necessary, it's cheaper for society to pay them a little bit of money to keep them in school than to let them out. Give them the type of counseling that Dr. Evans was talking about this morning. You know we found out that with all the dropouts we had, most of them hadn't talked to a counselor. No counselor had ever bothered with them. They were hungry to talk to people. We had to put on counselors in the evening so they could talk to them. Lonely students without goals. We must be prepared to provide programs for 60-80 per cent of the high school youth; high quality programs even to the less able. Our Governor makes the statement, (and boy, I love him, he only has two more years in office and he can't replace himself) we graduated 100,000 young people last year and threw them on the labor market. The labor market isn't ready for them and they aren't ready for the labor market. He says why spend $1.3 billion on education, what right does the educational system have to throw out 100,000 young people on the labor market unskilled, untrained? We had a study in Ohio which showed 90 per cent of those in the 16-24 age group had nothing to sell, were out of skill and out of work.

This point is one of his favorite phrases, "You will either give them jobs or you will fight them in the streets." We have a State Superintendent who is the chairman of the advisory committee. You know this is good and this is bad because you have a boss who knows what you are supposed to be doing. The trick in all of this will be to maintain quality programs as you expand massively. And that isn't easy.

I sat with a group and Dr. Evans was in that group, in which they said to this man, "Well, let's give them one period of vocational education and they can be sure to take the college preparatory program." But when we have given them a period of vocational education what do you do for the young person about to find he has been cheated? Well, one period is better than nothing but I am not willing to settle for that.

I don't believe you can fit the vocational education program of today and tomorrow around and in between and underneath "the sound college preparatory program". I don't believe it because I don't believe in the sound college preparatory program. I see no research to support it. Let's talk research if you want to. Time is running out so I am not going to read it to you but here is a summary of a study of about 25-30 of those that just accidentally got started on a system of worship at the altar of the individual subject (and you yourself haven't gotten away from it). If I would ask each of you individually what you did with your sons and daughters, what are you interested in that has been pretty good for somebody else; but, do you really understand what you are about in vocational education? Do you really believe in an integrated curriculum? This has been proven by research as being valuable but you don't believe it. Have you been willing to say, "Well, we will do the skill training of these people and then let them infiltrate into the college preparatory math and science?"

You have a chance to put together a sound educational program built around the goal of the student. Take these as goals, build the skill, math, science and technical information, the work habits, the attitudes, the remedial education, the health. Easy? No, it isn't easy. And you aren't going to do it in one or two periods a day and do it effectively. I will take an average boy and teach him to use functions of trigonometry if you will let me put him in a machine trade program and also have him in class long enough to teach him in an integrated program. I don't care whether the teacher is a math teacher or a machine trade teacher. I can teach him the three functions of trigonometry and teach him where to find them, give him a book to take along so that he won't have to do like I did, try to remember the functions of trigonometry. I had to go down the line and talk to a fellow who hadn't graduated from high school but who knew how to use the Machinery Handbook to find out. He wouldn't have to do as I did, go down the line and say, "How much metal do I leave in this hole if I am making a shrink fit?" I knew metal shrinks and expands and I knew all about the theory of coefficient expansion of metal but I couldn't use it. If you believe educational theory you can put together a vocational education program which is an educational program which recognizes the needs of young people for technical college math, science, and skills.

The program of tomorrow will start in the elementary school or as early as we can get them, not by Head Start. A program at the elementary school level would encourage all students to respect work and to want to be something. Don't tell me you are going to let this person graduate from high school and then decide to want to do something. The people who have really done something in life are those who wanted to do something early. Now they may change their goals later on but let's make them want to do something. This can be done in the elementary school. Have a work orientation program at the early junior high school years for all youth. Now, don't ask me how to do it, I am trying to find out. I have a group of people working on it and I haven't found anything yet that I am satisfied with but we will find out how. We will need a work orientation involving some kind of a work experience for all youth.

I am being hit all the time with, "What are you doing for these students?" We are going to do something. A broad program of vocational education with depth in the last two years of his first educational program is necessary. I don't care at what point that comes but at least two years before he leave the school he should make a selection and enroll in vocational training. He should have the opportunity to do so at the high school or post-high school level. We need a continuing vocational technical education program for re-training and upgrading. Such a program requires a broad student base and a broad tax base. I need at least 500 students to have such a program. I will take any boy, any girl as long as you will let me have enough programs in order to let them succeed.

I know what it would cost us in Ohio to serve 40 per cent of the high school youth. It would cost us $272 million additional dollars as well as equipment. It would cost $36 million additional dollars for operation. I know what it would cost to go to 80 per cent of our people at the high school level. It would cost us $619 million for construction and equipment and the cost would be around 80 million dollars for operation. I know what it would cost and yet these costs are not outlandish, ladies and gentlemen. If you can't think in this kind of money then you are not thinking of making vocational education a major part of the educational system.

Colleges have not been unwilling to do this. Colleges have prepared for this period of time so much better than have you and I and the public school system, that it is pitiful. Three hundred fifty million were spent on construction in colleges in Ohio in the last two or three years. Three hundred fifty million, and I don't begrudge a nickel of it. The college bill passed at the Federal level, I think, it was about 7-1/2 billion dollars. I don't begrudge a nickel of it. But then, they are talking to you and I in terms of peanuts to do the ground job that needs to be done for 80 per cent of the youth -- 80 per cent of the people. I am talking about the forgotten majority of our people. Maybe there is enough money for vocational education if in terms of bridging the gap between today, and tomorrow you would put together the money from OEO, from NAB, from MDTA in terms of one administrative package, as they do with the college funds.

They are not giving the college money to every one that jumps and runs to set up a school, but that is what happens in vocational education programs. That is the band-aid concept.

I believe the future of our nation may not depend so much upon our appreciation of the arts as upon our investment of ourselves in work. Man's contribution through his work is basic to being a good citizen.

You know I attended a New Orleans meeting and I worked with a group that had all the brains in education there. I felt very insignificant. I went to to a group talking about humanities because I am not supposed to know anything about humanities; I am a vocational educator. I sat and listened and then I said, "Tell me, will you outline the many principles that makes something a humanity?" They were good because they could do this. Anybody who can outline principles knows what he is doing. I looked at these and I listened and said, "Well, then vocational education is a humanity, isn't it, if it is taught as a humanity?" Because the outline was not content in art, content in music, content in the performing arts. The outline was the ability of relating what you are teaching to the on-going life of our nation, to that person seeing what he is doing in perspective of a whole. So, vocational education, properly taught, can be a humanity.

Jobs are the answer. Vocational and technical education can be a major factor in helping people find that answer. Not as it was in vocational education or as it is, but as vocational education can be if we plan our journey, if we follow our compass, if we have a sound, quality ship to carry us and have able leadership.

DEVELOPMENT AND USE OF HUMAN CAPITAL

By A. R. Chamberlain
Executive Vice President, Colorado State University

Mr. Chairman, distinguished guests, ladies and gentlemen--let me welcome you to Colorado State University.

In discussing with you the subject, "Development and Use of Human Capital", I suspect some of my colleagues might object to my use of the term "human capital", rather than such terms as labor and management forces or at least "human resources."

However, the past few years have seen a rising interest in viewing education, especially vocational and professional education, as a long-term investment by society. Also, economists and others have become aware that education from kindergarten to the post-doctoral level is second only to national defense in the summation of public budgets. This has led to attempts on the national and international scene to assess the role of formal education in terms of economic productivity and economic growth, as well as in terms of its role in expanding and transmitting knowledge. As a result of this development, professional economists have begun to speak of capital as tangible property capital and the somewhat intangible item of human capital. It is, of course, with human capital that all of us in this room and in education at all levels are concerned.

This evening I would like to comment on the expanding role of vocational education in developing human capital. In addition, I will talk about what we must do to make people aware of the importance; in fact, the absolute necessity of supporting our educational institutions and their programs as the most effective and efficient manner in which human capital is developed. Further, I will introduce certain arguments with which you may disagree.

Without meaning to depreciate the unique and significant contributions made by vocational education over the past seventy years, it appears to me that vocational and technical education has recently assumed a new importance in respect to education and society.

This is partly because the colleges and universities in the 1950's oversold American society on the need of everyone for a college or university degree. Society responded with a flood of young people coming to the campuses--many who didn't belong. Money, though in short supply, wasn't too tight for many institutions.

We in universities sold so well that now we are in trouble. We have more students than we have money or facilities to support them. University education didn't solve all of society's problems.

The unfulfilled expectations of faculty, students and the public have mounted. Costs have risen at a fantastic rate, since the supply of teachers was inelastic.

Now--when many realize that large numbers of students in secondary schools and in colleges and universities need a vocational program; not an academic degree--society is somewhat disenchanted with colleges and universities and the antics of their students and faculty.

Community colleges are springing up rapidly. But is is difficult to get them to really emphasize Vocational-Technical education. Frequently, the community colleges talk Vocational-Technical, but proceed to give emphasis to academic transfer programs. High schools are doing some of the same "double talk".

I believe the tone of our society has never been better for Vocational Education because:

a) Interest of many who shouldn't go to universities has never been higher.

b) Interest of high school students and of students dropouts never has been higher.

c) Society's interest in the vocational type of educational opportunity never has been higher.

Today society is faced with, and hopefully willing to face up to, a multitude of problems in which education, especially vocational education, can and must play an increasing role.

One of these problems is that of unemployed and underemployed youth. In terms of human capital it is the youth of the nation in which the greatest yield will come from a given amount of investment of public resources, I am sure we would all agree. The public is concerned about unemployed youth--this is commonly discussed in conjunction with the high school dropout. Of increasing and perhaps equal concern is the underemployed youth. It doesn't take a trained psychologist to know that a job is vital to a young person, and that it is equally important that the job be compatible with his abilities; and, whenever possible, with his aspirations. Unfortunately, jobs are hard to secure for the uneducated and unskilled. Even when they are able to find a job, it is an entry level job at the lowest level, such as washing cars, sweeping floors, digging ditches, etc. The high school graduate is often only a little better off. He can do no better than clerk in a store or pump gasoline.

These are dead-end jobs. The youth knows it and is nearly as frustrated as if he had no job at all. Job turnover is therefore heavy in this age group. The problem of youth is further complicated by the fact that a disproportionate percentage of these young people with deadend jobs come from minority groups. Here the young person is not only fighting a lack of training and education but racial discrimination. Small wonder that this group is frustrated, volatile, and quick to riot.

Small wonder the results of these problems, in terms of unfulfilled aspirations of young people. can be very traumatic. The trauma to the person frequently extends itself into trauma for the surrounding society when the frustrated individual lashes out at everything around him. The young people have so little to lose. For them we have made little public investment and therefore developed little human capital to be channeled into beneficial uses by society.

Consider the data from the U. S. Department of Labor, with which most of you are already familiar. It is reported that one out of four non-white teenagers in the labor force are unemployed as compared to one out of eight whites. Even worse is the fact that the jobless rate of non-white youth has risen twice as fast as among whites. The data dramatize the problem before us and give some dimension to the size of the pool of undeveloped human capital that is available to the nation.

It seems that for those of us in higher education to insist these individuals stay in school longer and learn more in terms of general education is utterly unrealistic. The cold facts are that for many social, economic, and psychological reasons we cannot keep this group in school. Even if we could, they would be unemployable when they drop out short of a college degree. Employers are looking for skills to do specific kinds of work. Although business and industry would like to have employees with a good general education, any personnel officer will tell you frankly that entry level jobs with any future require specific skills of a high degree.

It is with this problem those of you directly involved in vocational education have a much more important role to play than in the past.

Now that we have said vocational education has a bigger role to play in a society of rapidly changing technology, partly to train people for new careers every few years, "the party line if you will," let's explore some other facets of our society.

It is widely and ritually repeated that this technological society is part of a rapidly changing world. This statement is meaningful only for a world characterized by a nearly continuous development of new technologies. There is no inherent motivation or pressure toward change in tools and machinery as such, no matter how many or how intricate and labor saving they may be. When new tools are developed and displace older ones, however, there is a strong supposition that there will be changes in the associated society

There is no such necessity in the technology-society relationship. Yet, there is a relationship between technology and its social effects that serves as ground for inquiry into the technology-society relationship. The number of social changes that can result from a given technological innovation is smaller than the number of all possible social changes. The changes that do actually result are a still smaller number of those that can take place. Thus, in relation to any given new technology, the distribution of all possible social changes can be divided into: a) those that cannot follow as consequences, b) those that can (i.e., are made possible by the new technology), and c) those that do (i.e., the actual consequences).

One thus sees some fundamental implications for vocational education. While technology development means a high probability of change in job opportunities, in individual values, and in social values, it is only because the conditions of choice are altered; not because of any inherent pressure for change because of the existence of technical innovations.

If vocational education tries to lead society too fast by training people for certain new careers, it may find society has bypassed certain of those careers completely because of the many opportunities made available by technology--and vocational education will have trained people for non-existent opportunities. On the other hand, if vocational education goes too slow, it may train people for jobs already on the route to being dropped by society. Thus, vocational education walks a very real tight rope.

In walking the tight rope I suggest vocational education groups are too slow to use modern management practices in regard to decision making. While this meeting is in part an exception, too many meetings are ones where vocational education people talk to themselves! This won't do the job anymore.

Labor, management, government and education people must work together. Only by use of an interlocked system with feedback will we be able to select the technological possibilities, out of the many available, that will match with the changes we want in our social institutions and in our values. The few technological selections we settle on then become the ones around which new vocational education programs should develop.

Fortunately the debate of the last few years about the implications of technological change for employment and the character of work has not been in vain. Positions held by people, originally so extreme as to be untenable, have been tempered in the process. Few serious students of the subject now believe that the progress of mechanization in industry must lead to an irreversible increase in the level of involuntary unemployment in our society. Unemployment may increase, however, either voluntarily because people choose to take some of their increased productivity in the form of leisure, or as a result of inadequate education, poor management, or failure to make progress in solving our race problem. But reduction of the overall level of employment is not a necessary consequence of new industrial technology.

Now let me attack a sacred cow! The answer given to most problems is quote, "need for better communication". For example, greater involvement of all parties before a decision is made. It is true, I believe, that better communications are needed for the "micro" decisions of our society. But for the "macro" or "large scale" decisions, I believe better communications is not the answer to the problems of our society.

The real problem is that current and future communication channels are too fast for the increasingly imponderable, lethargic and impossibly slow moving decision making machinery of business, labor, education and particularly government.

The answer to the problem is not better communication. The answer is faster working machinery for social decision making. To illustrate--how long has the U. S. Senate been tied up with the Abe Fortas nomination, while crushing world and domestic problems stayed in committee? Can we afford the over 20 years it took Congress to decide to authorize the Colorado River Project? There are innumerable other examples one could select.

I plead that we devote energy to streamlining the machinery of social decision making. Our young people, with excessive data at their disposal because of too good communications, will not wait for the world to burn while they hope for decisions to be made.

The speed of communication is increasing--the speed of public decision making is slowing down. This divergence cannot be permitted to continue!

Let's review briefly this rapid technological change that is taking place on a more pragmatic and less philosophical plane. Most people place the beginning of this development with the industrial revolution, but I am referring to the recent acceleration of the change begun after World War II and pushed at an even greater rate by the first successful Russian attempt to launch a man into space.

The effect upon higher education, especially in the scientific areas, has been nothing short of dramatic; however, the demand for better development and utilization of our human capital investment in the semi-professional, technical and skilled has been equally great.

The challenge to vocational education appears to be one calling for significant readjustment or redirection to meet this technological change before the national economy and social structure suffers irreparable damage.

Not wishing to appear expert in a foreign field, may I say that drastic change seems called for in the type of program with which most of us are familiar in the secondary schools, technical institutes, and community colleges. Obviously, there are real problems in retooling for the kinds of new programs designed for the present and future world of work. Nevertheless, my experience in engineering leads me to predict that you will be under increasing pressure to tailor your programs to the most immediate needs of an industrial complex that is being made and remade so swiftly that only a few of the technical programs will long survive.

Unfortunately, your ability to cope with these problems will not only be dependent upon your own awareness and ability to change, of which I have little doubt, but the willingness of society to supply you with the sizeable resources needed to accomplish the task.

There are undoubtedly many challenges facing leaders in vocational and technical education. I must admit that, fortunately, leaders in vocational education have demonstrated a more realistic and pragmatic attitude toward their challenges than those of us in the colleges and universities have with ours. Therefore, I am confident that given the resources you will meet today's challenges.

Speaking of fiscal resources brings me to the point of saying a few words concerning our role in making the general public aware of education's contributions--past, present, and future--to development of human capital. We must:

a) Point out the direct relationship between education and the development of human capital. Those in vocational education have many examples to help in this task.

b) Stress the fact that the total human-capital input into the productive system has affected directly the national output of goods and thereby the national gross product.

c) Present the fact that the nation has been willing to place a large part of its resources in investments in physical capital and only a limited amount into the development of human capital.

d) Demonstrate that the rate of return on investments in human capital are measurable and equally as great, if not greater, than investments in physical capital. Studies have shown that money invested in a college education will add a significant amount to average earnings during an individual's lifetime over and above

> what he would earn if he had not attended college. This means that he will pay higher taxes as well as make a greater contribution to the development of his community.

In theory we could reduce the federal expenditures on welfare nearly to zero if all citizens were educated to a level where they could find employment at a level to sustain their needs.

Looking ahead, what we need are solid research studies to prove our points concerning the relationship between human capital and the growth of the gross national product. All of us involved in the educational endeavor must sell these ideas to the public just as enthusiastically as our counterparts in private industry and governmental agencies have sold the concept of improving production through investment in physical capital.

While stressing the economics of this problem, we must continue to drive home the fact that education is something more than an activity to be measured in dollars and cents. We must educate the public to the fact that the university has become one of the great social institutions of the modern world. In this country it has become the most sophisticated agency we have for advancing scholarship and research. It is crucial in the transmittal of knowledge from one generation to the next and it is vital in the application of this knowledge to the problems of modern society.

Before we leave the dollars question, I want to explore another fundamental issue affecting all of higher education, and particularly vocational education. The issue is directly related to the matter of public support for education.

Labor, management and government fail to understand that education is unlike any of their activities. In a simple format, there is great criticism regarding why the costs of education are increasing faster than the growth of the economy. There is great pressure to increase productivity of the teacher in a manner comparable to labor's productivity gains, thereby keeping the costs per student from growing so fast. Comparable productivity gains cannot and will not be made in education, and in particular in vocational education.

Those who allocate public funds for education must learn to understand this point. Let me illustrate. By development of jet aircraft, one pilot now transports many more people over more miles using the latest in technology. The cost per person/mile is going down. But in education, and in particular in the teaching of a skill, no amount of technology offsets necessary salary increases. Costs per student rise.

To illustrate again, no matter how much is invested in the most sophisticated electronic organ--the latest in technology--it still takes the same amount of time to play Chopin's "Minute Waltz". You can't play it in one-half minute--nor can you eliminate the hours of practice it takes to learn to play it.

Thus, inherent to education is the fact you must use a different yardstick in budget analysis than used in labor, management and government.

Before closing let me say a few words about college and university students.

a) Only a few make the mass media with their activities--most are hard at work studying.

b) The students have some reason to be disenchanted with the ways of an adult world that has given them such problems as air pollution, water pollution, ghettos, Korea, Vietnam, and in many cases inadequate or overworked teachers.

c) Faculty are, in spite of all their talk, ultra-conservative in regard to change. The students know this and want to pressure for faster changes in this dynamic society.

d) Parents and faculty seem to be unaware that the freshman college student of today is physiologically, mentally and socially as far along as many graduate students only ten years ago. Students don't like being taught like the freshmen of 10 years ago. They don't accept social mores that were developed for young people in our generation, partly because they reach puberty years earlier than we did.

Overall, however, I am very certain our present generation of college and university students will turn out to be the most capable group to lead our nation during the remainder of this century that our society has ever seen.

In closing, I have endeavored to point out a small part of the challenge to all of us in education that today's accelerating and changing technology has placed upon us to develop the nation's human capital. There can be no question but that education and training is the bridge between man and his work.

THE ROAD AHEAD FOR VOCATIONAL EDUCATION

by John F. Jennings
Legal Counsel for the Sub-Committee on Education
Washington, D. C.

I came out here in Congressman Pucinski's place expecting to tell you that there was going to be a revolution in vocational education referring to the bill that the Congress of the United States passed, but unfortunately for me, you people are having a revolution of your own. Judging from your summation this morning, I would say that bill was no more ratifying most of the conclusions you have reached in the last couple of days. But I hope that you people will take these conclusions and go back to the state level where you can put these conclusions into effect. The bill which was introduced by Congressman Pucinski, was passed by the House of Representatives and the Senate, on final vote yesterday and is now on its way for the Presidential signature. It represents a great accomplishment for vocational education. I think it will compare to the 1963 Act in its changes in vocational education.

I say that vocational education in Congress has a fantastic power. The bill was reported passed unanimously and even though there were several provisions which were added in conference, these provisions could not outweigh the confidence which Congress had in vocational education. They were not willing to see the vocational education bill die because of some provisions which they found obnoxious and so Congress, by passing this Act has demonstrated an act of confidence in vocational education. Congress believes that vocational education offers one of the best solutions for our educational problems and our manpower problems in the United States.

Congress considered the National Advisory Council's report very carefully. We held 26 days of hearings on vocational education which is an extraordinary amount of time to devote to one subject. Congress has reached two conclusions on vocational education in its present state in the United States. First of all, the Advisory Council has pointed out that the 1963 vocational education act had two major purposes. The first one was to provide an opportunity for all youths in the United States to gain occupational training in many different occupations instead of the traditional training in many different occupations instead of the traditional vocational education occupations. And the second purpose, which is equally important, is to provide training for students with special needs, for students with academic, social and economic handicaps. Now, after a long study of vocational education, this session of Congress has decided: one, that vocational education is in a healthy state in this country, that there are 7 million young people and adults involved as students in vocational education; two, that between 1964 and 1966, investment in vocational education increased 2-1/2 times; and three, in the school year 1966-67 there was an increase in vocational education funds of 22 per cent so that now the investment in vocational education equals approximately one billion dollars.

Frequently, vocational students coming from middle-class homes, are highly motivated. They receive adequate education, adequate training in vocational schools, and they are adequately placed in good jobs so that vocational students frequently have no unemployment as opposed to academic students or general curriculum students. The Federal government feels that there has been a redirection of vocational education as can be manifested by the increase in the number of off-the-farm jobs training in agricultural vocational education and as indicated by the respectibility which office occupations has received as a subject in vocational education.

Overall, Congress would agree with the Advisory Council report that the Federal government received the best return on its dollar in vocational education in contrast to any other training program. I must also tell you that Congress has reached a second conclusion and that is that vocational education as it presently exists is failing in certain areas. Vocational education is not changing rapidly enough to meet the new and emerging job needs. It is not changing its curriculum fast enough to meet the skilled jobs that are available on the market which are not being filled. And vocational education is especially not meeting the second objective which the 1963 act specified which was to provide job training or vocational training for students with special needs. Less than 1 per cent of the Federal vocational education money since 1963 has been invested in this area, and this is a failure; this is a monstrous failure. Why should the Federal government be investing between $1,000 and $3,000 per trainee in MDTA projects when the student should have learned basics in vocational education and when they should have received basic skill offerings in vocational education?

Vocational education must offer the solution to this problem. It is monstrous when in this country we had 50 per cent of our students enter their occupation at the high school level. We have 80 per cent not receiving a college diploma and yet these people are released to the job market with no training. There is only between 6 per cent and 7 per cent of our total student enrollment involved in vocational education. This is wrong. There is something wrong with the educational system when in our riot cities of Newark and Detroit we have a dropout rate of 15 per cent and a dropout rate of 9 per cent, respectively. There is something wrong in vocational education when you only have 4 per cent of the student enrollment involved in technical training when all indications are that technical jobs are going to be greatly in demand in the next couple of years. And finally, there is something wrong, as Congress has recognized with itself, when it appropriates $3 for higher education for every $1 appropriated for vocational education. These things are wrong with our educational system, these things are wrong with vocational education, and these things are wrong with Congress!

Now, Congress has reached the conclusion that it must pass the bill that will help vocational education redirect itself more rapidly in the new and emerging job needs which will emphasize more special needs of the disadvantaged students. These students are not lazy. The U. S. Employment Service reported in June that they have 233,000 job requests unfilled. And since only about a third of the job requests in the country are given to the USES there are approximately 700,000 jobs unfilled in June of this year and yet we have a monstrous unemployment rate in youth between the ages of 16 and 19. White males were unemployed at a rate of 23 per cent, white females at 24 per cent, negro males at 33 per cent, and the negro females at 49 per cent. This is not right. Why should there be skilled jobs begging when you have a labor force that is untrained? Vocational education must provide the answer for this.

As the film adequately showed today, no economy can grow unless it has skilled manpower and vocational education must provide that manpower. By 1975 jobs will increase by 18 per cent in this country, but those jobs requiring professional and technical competence will increase by 54 per cent. Is vocational education meeting the challenge? Not when you have 4 per cent of your enrollment involved in technical training.

Now, I would like to describe for you some of the provisions of the bill which has passed. These provisions, like I mentioned earlier, are ratifications of your conclusions this morning. I was very surprised sitting in the back of the auditorium. Like I said, Congress was far ahead of vocational education, but you are at least equal to Congress in recognition of the problem if not beyond it. Congress, after considering vocational education, has reached the conclusion that vocational education must provide every student in this country with a marketable skill. Besides that, it must provide these students with the ability to be employable so that as their economy becomes more sophisticated and as people have to change jobs within their lifetime, they will not have to go on the unemployment rolls. Vocational education is going to meet this challenge. Congress believes it and I think you people believe it. Congress, which was especially fruitful this year, would not have authorized $3 billion for vocational education for four fiscal years if it did not believe this. There is $1 billion invested now throughout the whole country in Federal, state, and local expenditures in vocational education, and yet Congress is willing to authorize $1 billion for fiscal year 1970 alone in Federal funds fully anticipating that the state and local levels will match this money so that vocational education can grow enormously in the next couple of years.

One of the requirements which has been changed in the state plan is that a state may no longer distribute funds on a uniform ratio throughout the state. This has led to many inequities in the past such as having a rich school district receiving the same per capita (amount of money from the state) as the poor school district. Now the state educational agency must consider the financial ability of each local school district, must consider the enrollment, must consider the poverty, and must consider the property taxation level. This will lead to more justice in vocational education. There is no sense in having a wealthy school district receive as much money as a poor school district, especially when the poor school district has students who are the special pre-occupation of this legislation.

Congress has also earmarked funds within this legislation. Fifteen per cent of all funds going to a state must now be used for programs for the disadvantaged. This again I cannot emphasize too much. Sometimes vocational educators don't want to be identified with the disadvantaged, but you must be. You are the disadvantaged student's best hope to become a good citizen and when less than 1 per cent of our Federal money is being used in vocational education for this purpose, there is something wrong. So, Congress has decided that 15 per cent must be used for programs of the disadvantaged.

Another 15 per cent must be used for post-secondary education. Congress has been especially impressed with the potential at the post-secondary level and it has decided to encourage this expansion by earmarking this amount of funds for this purpose. Lastly, 10 per cent of the funds are earmarked within each state for vocational training programs for handicapped people, for those who are mentally and physically handicapped. Although there is some implication of the vocational rehabilitation act and with their programs, Congress has felt that their needs for the handicapped are not being met adequately, especially the people who are in between.

Each state will now be required to set up a state advisory council which will be broadly representative of the interests in the state. The state advisory council will advise the state for vocational education and the administration program within the state and must be consulted in the program planning within the state. Now this is not meant, to disturb the administrative function of the state board. The intention is to create a state advisory council which will bring together the different interests in the state and have them advise the state board and evaluate the programs at the state level to find out whether in fact these programs are meeting the two stated objectives of the legislation. There will also be created a national advisory council which will give periodic reports to the Congress and to the people, such as the report which has been submitted by this national advisory council. Presently, all research monies under the vocational education act are being used by the commissioner of education for the research. From now on, half of these funds will go to the state. These funds are to be used on the state level for the support of the state research coordinating unit, for the support of research projects approved by the state agencies.

Another program which is important to your area is the residential school programs. There are two aspects of this program. One provides for a program administered by the state board to establish residence vocational education schools within the state. These schools are intended to serve rural youth who are isolated from an adequate educational training. And they are to serve youth in the ghetto who must have their family structure restructured to take advantage of the educational offerings. The second aspect of the residence vocational education school program is a very interesting concept of grants by the Federal government to the state boards and to colleges and to universitites to pay for the interest rates on mortgages for the colleges and to universities to pay for the interest rates on mortgages for the colleges or universities or state boards not able to obtain money from banks to build these residence facilities. I hope this program especially will be considered by people on the local level.

Another program is cooperative work-study. This program is meant to fulfill one of the recommendations of the advisory council. The National advisory council has stated that the work-study programs are one of the most successful in vocational education. Congress has authorized this program to provide employment in private industry and in public industry and to provide related academic vocational instruction. This will provide training for students from private schools and for students from public schools.

Another new program is curriculum development. I heard mentioned this morning frequently, the observation that curricula and vocational education must be revised. Well, this will provide money to revise your curricula not only in home economics but in other fields.

The last new program which has been authorized is a teacher training program. This will provide funds for scholarships for vocational educators to go to graduate school to advance their education or for students in college who want to go on to education in vocational graduate schools. It also provides for grants so that state boards can fund in-service training institutions for vocational educators and exchange the vocational educators with personnel in industry. This program is especially important because by 1980 we will need one million new teachers at the post-secondary level and in 1980 we will need 250,000 vocational educators at the secondary level. This program is vitally important.

Lastly, Congress has re-authorized two programs which are presently in operation. One is the work-study program. This, as you know, is to provide employment for public employers, to compensate a student so that he can have pocket money to stay in school. The other program which has been re-authorized is the consumer homemaking education program. The Congressional authorization has put special emphasis on consumer education programs. One-third of the funds within each state now under the homemaking education program must be used for consumer education programs. This is to provide a long-term solution for the people in the ghettos, for the people in the rural areas who are not able to adequately plan for diets, or adequately plan their home environment.

Lastly, this bill mandates that the commissioner of education collect information from throughout the states and distribute this information throughout the states. This has been one of the most frequent complaints of the national advisory council because there is not enough adequate, up-to-date information. This bill mandates that the commissioner of education obtain this information from the state level and distribute it. Another provision in the same section is that the commissioner of education write a catalog of all Federal educational programs with their requirements, their funding level, and the application procedure, and distribute this throughout the country.

The last requirement of the bill is that the commissioner of education provide aid to rural school districts to appraise them of the Federal program which will be available to them and to give them assistance in filing applications for these programs.

This is the content of our bill. It is a good bill. As you can see, it is based on the national advisory councils recommendations. Now, there are two tasks before us. One is to get appropriation for this bill and secondly, it is for you people to go back to the local level and the state level and to make sure that this bill is put into force as it is meant to be put into force. These are some changes which some vocational educators are not going to approve of. But these people have to realize that the old traditional occupations in vocational education cannot be the main concern of vocational education. You are going to be put back to the backwash of American education if you do this. Vocational education must change. It must redirect its curricula.

It must provide job training for new emerging job fields, and it must especially provide job training for the disadvantaged students. Congress, by passing this bill, believes that you can do it. And I hope you won't let us down.

SUMMARY AND EVALUATION

by Dr. Malcom Hunt
Supervisor, Program Services
Colorado State Board for Vocational Education

I suppose I am somewhat like the three year old child whose family had been concerned about the fact he had not spoken. They had him to several doctors but he simply would not talk. One day at lunch time while they were eating, the little fellow said, "The steak is tough". Oh, he has spoken. Why haven't you said anything before this?" He said, "Everything has been fine until now." That is sort of the way this conference is, everything has been fine up to now.

Certainly Dr. Barlow hit at the very foundation that we like to think about in vocational education which I would like to underscore; that we be very careful about departing from some of these basic principles. I always become a little bit fearful when we get carried away with some ideas and programs that we may lose sight of some of our basic principles -- when we do, we may lose the whole ball game. I mean particularly that we do not want to turn the educational system of the United States of America into an European system and believe me, there are many people in this country that would like to see us develop an European system of education. Those of us who have studied education know that this is not what we want. Neither is it what we want for our American boys and girls and I hope we will never lose sight of that.

Dr. Evans, of course, in his very capable and confident manner gave us many good ideas to think about and I want to underscore some of those. Rupert and I particularly agree upon the cooperative work type of program. Of course, Mr. Burt, you remember, pointed out again the importance of the advisory committee. Dr. Shoemaker, Byrl as we know him, worked with us as a member of a team that I brought into Washington to work on some ideas. The only thing that I could think of after Byrl got through talking was a story I heard the other day. It seems as though there was a stork family living down here at Loveland; a father stork, a mother stork, and junior. Well, you know the story about storks; the father stork would fly off every so often and he would return home and junior would always say, "Daddy, where have you been?" Father stork would say, "Well, I have just made a young couple joyously happy with a bundle from Heaven." Junior stuttered about this a little while. After a while another day would pass and mother would be gone and the same thing would be repeated; somebody had been made happy over the bundle of joy. One day, junior flexed his wings and he flew away. Of course, mother and father were very much concerned; they didn't know where junior was going. So, finally late in the afternoon he returned to the home nest and they said, "Junior, where have you been?" He said, "I had a wonderful day, I have been up at Colorado State University scaring a lot of young people."

Well, Dr. Evans did scare us in a spot or two, you have to admit. Of course, he gave us a lot to think about and of course, I wonder sometimes if we don't have a tendency to have a bit of oversimplification of what we can do and what we can't do.

I know that Byrl comes from a state with seven major cities. Also, the chairman of our committee, Dr. Martin Essex, is State Superintendent of that state, so I suppose we have to use some of these scare tactics.

Now, I commend the group session reporters. I am sure that they were chosen by good democratic procedures and elevated to their job because of one reason or another. I really don't know except to commend them and thank them for a very fine job. I really don't know for whom the bell tolls. Either them or you. I don't know which, it is hard to tell.

I imagine, now that we have reached this point in this conference, you feel very much like the reporter that I heard about in Arizona a few years ago. This reporter had wanted to go to a nudist colony and he had made application. Finally the word came back that said, "Look, we are going to let you come in for a couple of days but you must observe all the rules and regulations as those of us who live in the nudist colony." So the time came and the boy went. When he got back, everybody was puzzled, particularly in the news office. They were anxious to find out what had made such great impressions on him as he wandered around this nudist colony. They said, "George, what made the greatest impression on you?" He said, "A cane-bottom chair."

As a member of the national committee, certainly we struggled and fought over what we hoped would be the correct answers to some of the problems in vocational education. Now these reporters have brought you the consensus of ideas from the groups and the ideas for participating in this program.

Dr. Barlow and Dr. Evans and I will be in Madison, Wisconsin on October 17 and 18 at which time we will hear a report from all the group meetings throughout the United States. I know that Dr. Larson will represent you well in presenting the things that have been presented here.

I don't know what a person like myself that is supposed to synthesize and pull together and try to get little bits of knowledge and wisdom out of all this, is supposed to do except to tell you that we told you in the beginning what we were going to tell you and we have told you, and now we are telling you we have told you. So, actually, we seem to repeat ourselves a good deal. But we do thank you. So, operating on that premise, I just want to call your attention to a few things.

I hope, if you have not done so, you will take out of the packet you received when you registered, this little booklet and turn to pages 12, 13, 14, and 15 and really read the recommendations that we hammered out -- sometimes almost a word at a time and as Rupert or Mel told you yesterday, it was not always an easy agreement, even though when we finished, we did say, this is our report. We could not get 100 per cent agreement but we did have a wonderful committee and when we finished, we said this is our report -- we will take credit for it. We will not disclaim any of it and I think this is tremendous.

Perhaps, one thing we did not catch the full significance of here in our discussion group is the matter of Federal administration in vocational education. You cannot realize unless you have worked closely with the people in the U. S. Office of Education, what a precarious position they are really in. They do not have adequate funding for staff. They do not have adequate staffing. They are being asked to more work than they have ever done before with less money and one of the things that we failed from the very beginning and I think you should know this, that committee of twelve that was in and out of Washington for over a year was paid for travel and per diem right out of the vocational education office budget. There was no special appropriation for this. This is pretty bad so I think we as vocational educators need to realize that we need to undergird and strengthen the Federal operation. Of course, we hope that some day number two of our recommendations will become a reality -- the Department of Education Manpower Development established at the cabinet level -- but even if it doesn't believe me, when I say as Dr. Evans mentioned yesterday and Dr. Barlow concurs, that these people need help because certainly they must have the means to do a job.

I think I should pass on my thinking on the three topics that each group was asked to discuss and let it be at that rather than reiterating them time and time again.

First, there is the program for special needs. Certainly our recommendation covers this rather adequately. You will notice that we put in a request for money for 100 per cent funding where possible for innovative programs, a continuing experience needs type of legislation as a part of the vital segment of our bill.

Second, a permanent authority for funding as we testified before a committee in March or April. One of the points we tried to drive on was the necessity of getting this funding done at the very minimum of a year in advance whether it is for the work study, regular program, or for whatever.

Having spent most of my life in education, I know you cannot plan programs without money. We are embarrassed at the state level to have to tell you that we are not able to guarantee a certain amount of money, but we hope that out of our recommendation for early funding, that this will be implemented.

Third, I thought Dr. Masterson probably covered the home economics problem adequately. This was not an easy one to solve. Dr. O'Toole, too fought a real battle to get anything in home economics. I concurred with her thinking and I don't mind telling you I am publicly acknowledging. We certainly would not have felt that homemaking should be down-graded in any way by making a recommendation for secific appropriation. You will be interested to know, I think, that Representative Pucinski, when I was testifying before the committee because this was in my domain to discuss, stopped me and gave me about a 10 or 15 minute talk on the importance of home economics.

So those three items have been taken care of. Our committee recommended one billion, 565 million dollars to finance vocational education. We felt that would do for a starter.

In the matter of guidance, we spent a great deal of time on the problem. I think we all realize that one of the most important jobs we had in vocational education was to get more vocational guidance into our schools and at as early an age as possible. We hope out of this program that there will be funds available and I am sure that there will be.

Another thing that we talked a great deal about, (and I think Colorado State University is entitled to a compliment on this score) is on the preparation and training of vocational teachers. Certainly, if we are going to expand, improve, and extend vocational education, as 88-210 says we are to do, we must have a supply of teachers. I say with all candor and honesty that I feel that maybe there has been too much national allegiance to a particular field. I think we are going to have to get off of this "kick" to some extent anyway. Fortunately, at the graduate level I think we are making some headway. But I will certainly say that one of the things we need to stress as vocational educators is an adequate program of training and preparation for vocational teachers.

In the matter of re-defining our vocational education in terms of education, certainly we need to always be alert to changes that could be made to clarify, to assist in some way, the strengthening of our philosophy and our purposes in vocational education.

Who is to provide vocational education is a tough problem but I think this committee handled it rather well. They realize that we must begin some pre-vocational and exploratory type of work early in a child's school life. They also recognize that there are many facets to this program and that there is plenty of work to do. I couldn't help but think of the story about the man that was sick and had to go to the hospital. You remember that he had a board of seven members and after he had been in the hospital, (he had been seriously ill and as a matter of fact, they thought he was going to die but he pulled through) he received a telegram and it said, "Our board has met and we want to tell you that we wish you well and we are pleased that you have passed the crisis. Furthermore, we want you to know that this was passed by a 4-3 vote of our board." Certainly we must be realistic in our objectives as we face up to vocational education.

One place that I thought maybe we didn't hit as hard as we should have -- I think we need to do a great deal of work on our vocational education curriculum material. One of our recommendations was that we set up some centers. We didn't specify the number exactly, probably, 4, 5, 8, or 10. Not more than 10, but maybe 4 or 5 or at least four to begin with, because, ladies and gentlemen, I do not feel that we are presently producing the needed materials in the vocational curriculum in the United States. This is one I wanted to hit pretty hard.

Now we feel that in Senate 3770 and HR 18336 we batted between 75 and 80 per cent. What is my opinion of what we accomplished in these bills? So, we feel we didn't do too badly having that high a percentage.

I hope that you have enjoyed the conference and I thought that I might finish up with a new terminology that we use around the office.

If you get a letter saying it is under consideration, that means that we have never heard of it. If we say it is under active consideration, that means we are looking for it in the files. If we say we are making a survey of it, we really mean we need more time to think of an answer. And if we say we will advise you in due course, then it really means, if we figure it out we will let you know. Thank you very much.

APPENDICES

APPENDIX A

A CITIZENS CONFERENCE ON MAN, EDUCATION AND WORK

COLORADO STATE UNIVERSITY

October 3 and 4, 1968

PROGRAM

Thursday		Student Center Theatre
12:00 noon	REGISTRATION - Student Center Theatre Lobby	
1:10 p.m.	Greeting - Dr. William E. Morgan	
	"Foundations for Vocational Education"	- Dr. Melvin L. Barlow
	"Educational Programs to Cope with Manpower Problems"	- Dr. Rupert N. Evans
2:45 p.m.	Coffee Break	
3:10 p.m.	"Industry and Business Bridging the Gaps In The Preparation of Youth:	- Mr. Samuel M. Burt
	"Bridging: Yesterday, Today, and Tomorrow in Vocational Education"	- Dr. Byrl R. Shoemaker
	"Charge to Discussion Groups"	- Dr. Milton E. Larson
Thursday		East Ballroom, Student Center
6:30 p.m.	BANQUET -- Dr. Marvin Linson - Toastmaster	
	"Development and Use of Human Capital"	- Dr. A. Ray Chamberlain
8:45 p.m.	FILM SHOWING	East Ballroom, Student Center
	"The Future" - Introduction and Remarks	- Mr. James W. Wilson
	"Where The Action Is"	

PROGRAM, Continued

Friday DISCUSSION SESSIONS Student Center

7:45 a.m.

Group	A	B	C	D	E	F	G	H
Room	201	202	203	204	205	206	209	210

NOTE: Assignment to groups is indicated on the list of participants. Individuals who did not register in advance, contact Dr. Larson or Mr. Gutcher for assignment to group.

9:45 a.m. Report by Group Secretaries Student Center Theatre

Summary and Evaluation - Dr. Malcolm Hunt

12:30 p.m. LUNCHEON -- Dr. Duane L. Blake - Toastmaster East Ballroom

"The Road Ahead for Vocational Education" - John F. Jennings

APPENDIX B

OTHER PARTICIPANTS	POSITION	ADDRESS
Dr. Milton E. Larson	(Conference Director) Prof. of Voc. Ed.	Colo. St. Univ., Ft. Col.
Dale Gutcher	(Host) Grad. Student	Colorado St. Univ.Ft.Col.
Thomas Stone	(Host) Grad. Student	Colo. St. Univ., Ft. Col.
Dr. Herbert A. Smith	Assoc. Dean for Ed. Col. of Hu. & Soc. Sc.	Colo. St. Univ., Ft. Col.
Dr. C. W. Hotchkiss	Dean of Summer Session	Colorado St. Univ.Ft.Col.
Dr. Melvin L. Barlow	Prof. of Education Div. of Voc. Ed.	Univ. of Cal., Los A.Cal.
Dr. J. Kenneth Little	Co-Dir., Center for St. in Voc-Tech Ed.	Univ. of Wis., Madison, Wisconsin
Dr. Rupert N. Evans	Dean, Col. of Ed.	Univ. of Ill, Urbana,Ill.
Dr. Byrl R. Shoemaker	State Director Vocational Edcation	612 State Office Bldg, Columbus, Ohio
Dr. A. Ray Chamberlain	Vice President for Administration	Colo. St. Univ., Ft. Col.
Dr. William E. Morgan	President	Colo. St. Univ., Ft. Col.
Dr. Daniel W. Ogden	Dean, College of Hum. & Social Science	Colorado State University Fort Collins
Dr. Wendell H. Bragonier	Dean, Grad. School	Colo. St. Univ., Ft. Col.
Dr. Roy C. Nelson	Assoc. Dean, College of Hum. & Soc. Sci.	Colorado State University Fort Collins
Congressman Roman C. Pucinski	State of Illinois Representative	House Office Building Washington, D.C.
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GROUP DISCUSSION

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APPENDIX C

COLORADO STATE UNIVERSITY

Fort Collins, Colorado 80521

Department of Vocational Education October 9, 1968

Dr. J. Kenneth Little, Co-Director
Center for Studies in Vocational and
Technical Education
The University of Wisconsin
1180 Observatory Drive
Madison, Wisconsin 53706

Dear Dr. Little:

It is a pleasure to submit this written report of the Man-Education-Work Conference which was recently held at Colorado State University on October 3 and 4, 1968.

We were delighted to have you join us for part of the conference.

Many individuals remarked about the excellence of the conference and values which they were gaining from it.

The Center is to be highly commended for providing leadership in the promotion of the series of conferences. Appreciation is due The Ford Foundation for its foresight in fuding the proposal.

It has been a pleasure to work with you and the other members of the staff of the Center For Studies in Vocational and Technical Education.

Sincerely,

Dr. Milton E. Larson
Professor of Vocational Education
and
Regional Director, Man, Education,
and Work Conference

MEL/bg

REPORT

MAN-EDUCATION-WORK CONFERENCE

October 3 and 4, 1968 Colorado State University, Fort Collins

I. INTRODUCTION

The conference proceeded according to plans in conformance with the guidelines provided and established at the planning session at Madison, Wisconsin. The local planning, contacts, and public relations activities were carefully planned and executed by the director utilizing the assistance of some local individuals.

No particular problems were encountered, other than minor matters which responded quite readily to applied efforts.

Many individual contacts were made by means of telephone, written letters of invitation accompanied by a brochure of information and program, and a personal tour of visit to several of the state directors of vocational education and some members of their staffs. The composite results of the efforts are evidenced by the large turn-out and the enthusiastic response of the individuals present.

While considerable time and effort were devoted to this project, it was a very rewarding activity and one which I believe will have a significant impact on citizens in the eight-state region relative to vocational education.

II. PARTICIPANTS

A. Conference attendance by states

Colorado	103	
Wyoming	32	
Kansas	17	
South Dakota	12	
Nebraska	10	
North Dakota	8	
Utah	7	
Montana	6	
States not identified	14	
		209

B. Conference attendance by field of interest

Vocational administrators and supervisors (state & local)	99
Other educational administrators and supervisors	25
Vocational teacher trainers	18
Guidance counselors	10
Vocational teachers	9
Other teachers and general educators	9
Vocational graduate students	8
Directors of RCU units	4
Members of State Boards of Vocational Education	4

Members of Dept. of Health, Education, & Welfare, Regional Office of Education	4
Representatives of organized labor	4
Presidents of colleges	3
Local school board members	3
Representatives of business and industry	2
Other government officials	2
Others (not designated)	2
State legislators	1
President of League of Women Voters	1
President of PTA	1
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NOTE: Approximately 1700 invitations were mailed to vocational educators, other educators, leaders of business, industry, and agriculture as well as state legislators, members of state boards, state advisory committees in each state of the eight states in this region.

III. GUEST SPEAKERS

Each guest speaker did an excellent job and was well received by the audience. The program was presented as listed in the appendices. In addition to the speakers identified in the brochure, Dr. Malcolm Hunt, member of the Advisory Council on Vocational Education, former State Director of Vocational Education in New Mexico, and presently Director of Program Services, Colorado State Board for Community Colleges and Occupational Education presented the conference summary and evaluation.

Congressman Roman C. Pusinski was not able to attend; however, the presentation was delivered very effectively by Mr. John Jennings, Legal Counsel of the House Committee on Education.

IV. FILM SHOWING

Two recently produced films were shown to the audience. These were:

Where the Action Is -- by AVA
The Future -- Colorado State Board for Community Colleges and Occupational Education

Several questions were asked relative to the films, indicating some measure of the interest of the audience.

V. FOOD AND FELLOWSHIP

The banquet on Thursday evening and the luncheon, Friday noon, provided additional opportunity for fellowship as well as the setting for two outstanding speeches.

VI. DISCUSSION GROUPS

A. Discussion questions assigned to this conference

1. Should funds and permanent authority be provided to develop and operate new and expanded programs and services specifically designed for persons who have academic, social, economic or other handicaps? Give recommendations.

a. 95 per cent of the group participants said "yes" and 5 per cent said "no"

b. Recommendations:

(1) The answer to the question is obvious. "An ounce of prevention is worth a pound of cure."
(2) Each state should have permanent personnel specifically assigned to develop and operate programs for special needs.
(3) Permanent legislation is needed.
(4) New funds should be made available to existing programs rather than providing funds for a new authority to do this job.
(5) We must be concerned about splitting divisions and creating a new bureaucracy.
(6) Vocational education should accept responsibility in this area.
(7) The desirability of permanent authority for dependable budgeting practices coupled with appropriate evaluation outweighs the possible disadvantage of complacency. It is recommended that the funding be general rather than for specific programs.
(8) Special teacher training courses are needed to prepare teachers in this field. These courses should contain philosophy as well as methodology for administration as well as for teachers.
(9) New curriculum materials need to be developed and this must be done soon.
(10) Industry and advisory committees must be involved in these programs.
(11) There needs to be coordination of vocational education efforts with all other federal programs working with people in an area.

2. Should permanent authority be provided for work-study and work experience programs? In Secondary schools? In programs of post-secondary schools related to vocational-technical education? List recommendations.

a. 98% of the group participants said "yes" and 2 per cent "no".

b. Recommendations:

(1) Permanent funding for the work-study and work experience programs are needed.
(2) Work-study experiences should be tied as closely as possible to the training program.
(3) Work-study and work-experience programs should be provided at both the secondary level and at the post-secondary levels.
(4) Reimbursement to employers should be included for unusual costs of training and supervision.
(5) The need for expansion of such programs is urgent.
(6) Study needs to be made of the child labor laws and insurance regulations to enable more complete utilization of work-study and cooperative work stations.

(7) Careful study should be continued of all aspects of these programs.
(8) Some issues connected with these programs need better clarification.

3. What provisions should be made for vocational homemaking education? Make recommendations.

a. Support should be provided for family-centered homemaking programs.
b. Use of appropriate evaluative criteria is essential to determine the strengths and areas of change required in homemaking programs.
c. Necessary funds should be continued for preparing women for vocations in the home, even though this is not wage-earning.
d. Need funds to improve teacher education in this area.
e. This program has been meeting the needs of several special groups.
f. Expand these programs to meet need for the future, not just more programs of the same type as in the past.
g. Homemaking courses can help save the home and solve many of the family living problems of both boys and girls. The programs should be expanded and made available to all.
h. Steps need to be taken to keep these programs current and up-to-date. Research and evaluation needs to be a part of the program.
i. More courses need to be designed for wage-earning programs for girls.
j. Combine both useful and gainful home economics at the secondary level; but separate the programs at the post-secondary level.
k. Provisions should be made for vocational homemaking in all areas, i.e. foods, clothing, housing, money management, family living, child guidance, etc.
l. Do not favor separate funding for useful homemaking.
m. Useful homemaking should be eliminated at the lower levels (junior high school) and strengthened at the senior high school levels.
n. Useful homemaking should be a part of vocational education, but it should only be a part of the total homemaking program - not more than 24 per cent.
o. Teach the student that part of useful homemaking needed to obtain gainful employment.
p. Useful homemaking should be funded at present levels. New monies should be utilized for gainful employment.
q. Homemaking programs need to give more emphasis to this phase of education for boys as well as for girls.
r. Drop the word homemaking and instead teach occupations for women, whether they are directly or indirectly related to homemaking.
s. Funds and permanent authority should be provided for vocational homemaking training to insure training in wage earning occupations and training for the homemaker.

B. Discussion of interest topics selected by participants

1. Topic A - Realistic vocational education objectives for all

    a. Vocational education should be available to all who need it, want it, and can profit from it.
    b. All teachers being trained in teacher training institutions should be knowledgable of, and sensitive to vocational education.
    c. Counselors should be retrained so they will know more about the world of work.
    d. A positive attitude should be developed towards work beginning in the early elementary grades and continuing through high school.

2. Topic B - Redefining vocational education in terms of occupations education

    a. There is a need for a broader philosophy of vocational education which should include preparation for all occupations other than those requiring a baccalaurate degree and there is also a need for redefinition of procedures and concerns.
    b. Significant elements of concern to this topic are:

        (1) Evaluation
        (2) Understanding of purpose
        (3) Integration of programs
        (4) Public relations
        (5) Student needs
    c. It is recommended that attempts be made to develop greater understanding of the purposes of vocational education.
    d. Vocational education should begin early for every person and should prepare all people for the world of work and as productive citizens.

3. Topic C - Vocational education student selection, aid, and guidance

    a. Counselors and vocational educators should be strong allies in school, but, often this is not the case.
    b. There is a strong feeling that school counselors are not prepared to deal effectively with vocational needs. They are generally uniformed in the areas of vocational education. They place much more emphasis on students having a preference for college. The emphasis is placed on students seeking college because of:
        (1) Counselors' background, interest, and knowledge
        (2) Pressures placed upon counselors by parents for college education for their children
        (3) Society tends to place more importance on college eudation of a nature other than vocational education.
        (4) Status has been given to education for a college degree over vocational education.

- c. It is strongly recommended that:
    - (1) Occupational development experiences begin early in elementary grades
    - (2) Teachers learn to stress the dignity of honest work and strive to break down the negative attitudes toward vocational courses and work
    - (3) Provision be made for field counselors to work with parents and others outside of school
    - (4) Vocational nights as well as college nights become a part of the guidance activities of high schools
    - (5) Vocational programs be established to meet a broader range of vocational needs in terms of students' abilities and interests
    - (6) More vocational development counselors be employed in elementary schools to work with teachers and parents (They need it more than the children).

4. Topic D - Institutions to provide vocational education

    - a. Some of the reasons for concern about this problem are reflected in:
        - (1) A need to determine the level at which vocational education should begin
        - (2) A need to determine the proper relationship between the endeavors of public and private institutions in providing vocational education
        - (3) A need to determine the proper place of business and industry in providing vocational education
    - b. Recommendations for action:
        - (1) NOT all institutions should be encouraged to make the attempt to provide vocational education
        - (2) Occupational orientation and exploration should be provided to all students at the elementary school level
        - (3) Vocational education should be initiated at that state in a student's life which will lead him to completion of the program at a time when he will be of employable age.
        - (4) Both public and private institutions have a part to play in providing vocational education
        - (5) Business and industry have a part to play, also, in providing vocational education.

5. Topic E - Federal administration of vocational education

    - a. The regionalization of the USOE can work if authority is a part of the responsibility.
    - b. Efforts should be made to establish a CABINET POST FOR EDUCATION AND MANPOWER DEVELOPMENT with some assurance that the cabinet member would be sympathetic to the programs under him.
    - c. Efforts need to be made to stabilize the organizational pattern at the U. S. Office of Education.

6. Topic F - Financing vocational education
   - a. The Advisory Council on Vocational Education recognized that proper financing is a major concern. Of 26 specific recommendations, 10 were specifically on financing and 6 were related to it -- 16 of the 26 recommendations dealt with financing.
   - b. Realistic financing must provide for equalization of educational opportunities in a climate of a wide diversity of situations and conditions which include:
     - (1) Geographical barriers
     - (2) Distance from training opportunities
     - (3) Size of communities
     - (4) Individuals with special needs
     - (5) A broad educational mix in terms of age and individual ability other than those with special needs
     - (6) Mobility of population
     - (7) Lack of industry
   - c. The problems are centered in part around:
     - (1) Inability of many local districts to provide for their own and, therefore, need outside assistance which is compatible with the local needs
     - (2) Local resources already tapped to the maximum authorization
     - (3) Transportation of students
     - (4) Housing of students
   - d. Specific recommendations for additional financing was made through means such as:
     - (1) Re-examination of the state rules and regulations for the distribution of federal funds
     - (2) More reorganization and consolidation of school districts to eliminate duplication of costly facilities and to accommodate the spread of educational offerings
     - (3) Distribution of state and federal funds on a more proportionate basis according to needs, i.e. more funds specifically earmarked for vocational education on a practical rather than a theoretical basis
     - (4) Distribution of funds in terms of a cost per student to provide quality programs, that is, more funds to districts when the cost per student is higher than another district with equal quality program
     - (5) Tap additional sources of funds which are either exempt or of low yield, reference is primarily here to federal land ownership
     - (6) Adequate evaluation of programs to assure effective use of funds while not taking away local autonomy
     - (7) A re-examination of state fundation act requirements
     - (8) A re-examination of the federal formula for allocation of funds to the states toward the goal of elimination of the penalty for sparsity of population
     - (9) Use of funds to take programs to sparsely settled areas through mobile classrooms and itinerant instructors
     - (10) Consolidation of the several sources of federal funds for training and the designation of public education to administer the funds and operate the programs
     - (11) Assurance that vocational education will get its fair share of the funds currently available for the total educational program

7. Topic G - Preparation of vocational teachers and other staff
   a. A better solution needs to be found to expedite articulation for students having vocational post-high background who desire to enter teaching in the vocational fields and who seek to transfer credit to a four-year college or university.
   b. Consideration needs to be given to a system of pre-teaching clinical teaching experiences for students of the intercity areas. Teacher preparation specifically designed to meet the needs of these teachers is essential.
   c. More consideration needs to be given to methods of assisting those who enter teaching directly from industry, i.e. in the fields of trade and industrial education and technical education. Possible a plan needs to be developed to provide individuals in industry desiring to teach with a one year period of preparation for vocational teaching, while at the same time providing him with full pay.
8. Topic H - Needs and new emphasis in vocational education curricula
   a. More consideration needs to be given to the 12-month school
   b. Consideration needs to be given to the problem of school graduates being all released upon the labor market during the same part of the year.
   c. Vocational classes must be made attractive to the students.
   d. Industry needs to come to the aid of vocational schools.
   e. More emphasis needs to be given to curriculum for a multi-media world.
   f. Solutions need to be found to the staffing problem. This is even more acute in some high schools than at the post-high school level as often the high school teachers move to the post-high school positions.
   g. More effective work must be done with parents to emphasize the dignity of work and the desirability of vocational education.

VII. RECOMMENDATIONS

As a reult of the many contacts with individuals in the eight-state region prior to and during the conference the Director gained the impression that the impact of the conference will make significant contribution to both understanding and stimulation of programs of action to strengthen vocational education.

Both the Center for Studies in Vocational and Technical Education of the University of Wisconsin and The Ford Foundation are to be commended for the action and effort taken in making these conferences possible.

To secure the maximum multiplier effect resulting from the initial series of conferences and to further assist citizens to understand the provisions, implications, and far-reaching impact of current legislation, i.e. the Amendments to the Vocational Education Act of 1963 and other legislation, it is highly recommended that consideration be given to sponsoring another series of similar conferences within the next year or two throughout the United States.